

STUDY REGARDING SOME MORPHOLOGIC CHARACTERS OF THE BREEDING GROUND STALLION OF ROMANIAN SEMIGREU BREED

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Abstract

For this study were analyzed a total of 61 stallions (8 half breed: Ardennes x Trotter; 5 half breed: Ardennes x local mares; 19 Semigreu Type I; 13 Semigreu Type II and 16 Romanian Semigreu) registered in a studbook, which activated, or activates as breeding in Rușețu stud from 1963 till present. Among the numerous body sizes, this paper focused only on four sizes (the waist height, the thoracic perimeter, the shinbone perimeter and the body weight). For the actual type of Semigreu, after processing the data obtained from measurements, on average, the characters studied had the following values: 156.44 ± 0.91 cm for waist height, 185.75 ± 2.15 cm for thoracic perimeter, 22.75 ± 0.25 cm for shinbone perimeter and 583.13 ± 7.76 kg for body weight. The waist, compared to the actual type, it was lower for half breed Ardennes x local mares (with 2.07%) and Semigreu Type II (with 1.55%), respectively higher for half breed Ardennes x Trotter (with 0.35%) and Semigreu Type I (with 0.69%). Concerning the thoracic perimeter, it had higher values in all other batches of stallions, respectively with 3.96% for Semigreu Type I, with 2.69% for half breed Ardennes x Trotter, with 2.61% for half breed: Ardennes x local mares and with 1.99% for Semigreu Type II. The shinbone perimeter had higher values in all other batches of stallions (with 0.21% for half breed: Ardennes x local mares, with 1.09% for Semigreu Type II, with 1.58% for Semigreu Type I and with 2.32% for half breed Ardennes x Trotter). For body weight, only Semigreu Type I had higher values (with 1.06), other batches had lower values, respectively with 2.46% for half breed Ardennes x Trotter, with 2.65% for Semigreu type II and with 5.68% for half breed: Ardennes x local mares. For all the studied characters the results enlightened that the studied stallions are presenting as a homogenous batch, although their ancestry is far different, aspect very important for consolidation of breed characters.

Key words: horses, half breed, Ardennes, stud, dimensions

INTRODUCTION

Beginning with the second half of last century, some Romanian specialists recommended a new line in improvement of labour horses in the country, which seeks greater massiveness body, and soothe the temperament, using heavy breeds in public fitted and by creating parallel breeds and types of slight heavyweight horses to replace slight breeds in action for improvement.

Husbandry Research Institute established since 1951, at Slobozia, experimentation on the formation of a new type of intermediate

skills from heavy and slight breed, owing to the force, speed and docility, harmoniously combined in the same individual, are the most recommended for work [10].

Research has continued since 1964 at ICZ Rușețu resort, through experiences of cross between Trotter, Arden and Ialomițene mares in order to create a type of Semigreu horse for this area of the country. This initially resulted in two types of Semigreu horse (small and large), which were subsequently used to form the current Romanian Semigreu.

MATERIAL AND METHODS

For this study were analyzed a total of 61 stallions breeding ground, of which 8 half breed: Ardennes x Trotter; 5 half breed:

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Ardennes x local mares; 19 Semigreu Type I; 13 Semigreu Type II and 16 Romanian Semigreu registered in a studbook, which activated, or activates as breeding in Rușețu stud from 1963 to present.

The characters that were surveyed are: waist, thoracic perimeter and shinbone perimeter and body weight. Measurements were performed using the usual tools,

respectively zoo-meter, ribbon and scales [2, 4, 7, 8, 9].

Data obtained from measurements were statistically processed [1].

RESULTS AND DISCUSSIONS

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

Table 1 The values of the studied characters at stallions from Rușețu stud

Specification		Waist (cm)	Thoracic perimeter (cm)	Shinbone perimeter (cm)	Mass (kg)
Ardennes x local mares	Min.	148	188	22	525
	Max.	158	193	24.5	584
	$\bar{X} \pm s_{\bar{X}}$	153.2 ± 1.71	190.60 ± 0.93	22.80 ± 0.46	550 ± 10.73
	V%	2.50	1.09	4.55	4.36
Ardennes x Trotter	Min.	152	186	22.5	530
	Max.	162	203	24.7	650
	$\bar{X} \pm s_{\bar{X}}$	157 ± 1.09	190.75 ± 1.92	23.28 ± 0.23	568.75 ± 13.42
	V%	1.96	2.84	2.83	6.67
Semigreu Type I	Min.	151	184	21.5	500
	Max.	167	201	25	710
	$\bar{X} \pm s_{\bar{X}}$	157.53 ± 0.96	193.11 ± 1.09	23.11 ± 0.25	589.32 ± 11.15
	V%	2.66	2.46	4.71	8.24
Semigreu Type II	Min.	150	170	21	460
	Max.	161	206	24	682
	$\bar{X} \pm s_{\bar{X}}$	154 ± 0.91	189.46 ± 2.45	23 ± 0.27	567.62 ± 17.17
	V%	2.14	4.67	4.16	10.91
Romanian Semigreu	Min.	148	170	21	495
	Max.	162	201	24	620
	$\bar{X} \pm s_{\bar{X}}$	156.44 ± 0.91	185.75 ± 2.15	23 ± 0.27	583.13 ± 7.76
	V%	2.33	4.62	4.16	5.32

Regarding the waist (fig. 1), we see that the five crossbred stallions had a waist that ranged between 148 and 158 cm. From this point of view the batch was homogenous; coefficient of variation was 2.5%. According to current criteria of evaluation [14], the record category size must be within 156-160 cm, so in that aspect only one horse (Clucer),

with 158 cm would fall, the rest of the stallions having the waist under the limit. We also notes that the average of the character, 153.2 ± 1.71 cm, is under current limits, but this is normal, considering that it is the starting period, exploratory in shaping the breed.

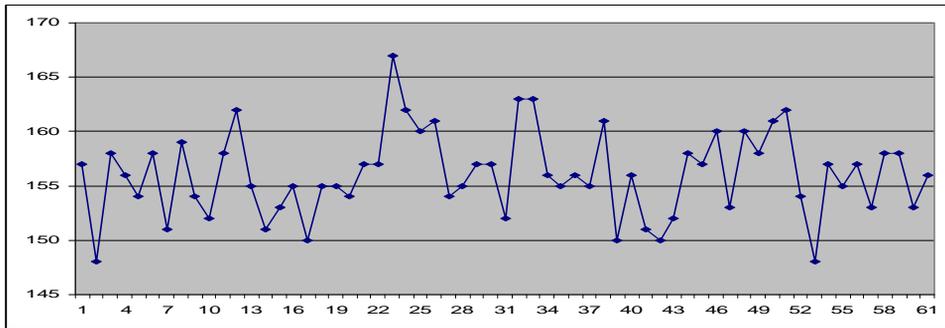


Fig. 1 Waist values at breeding ground stallions used in Rușețu stud (cm)

In the case of the half breed Arden x Trotter stallions, waist ranged between 152 and 162 cm, the batch is homogeneous from this point of view. Only five stallions, from eight, have the waist within the standard range, the batch mean is 157 cm. Bibirel and Cimpoi stallions have waists below the limit (154, 152 cm), and the Covor stallion has a waist over the limit (162 cm).

Regarding the waist, the breeding ground Semigreu Type I stallions, registered values between 151 and 167 cm, being a homogeneous batch from this point of view. Although the mean of the character of the 19 stallions are within the limits established for the present evaluation, there are 7 stallions with the waist under 156 cm and 5 stallions with the waist over 160 cm.

Breeding ground Semigreu Type II stallions, have a medium size of 154 cm below the current criteria limit set for evaluation, with oscillations of the character ranging between 150 and 161 cm. Nine of thirteen stallions had waist beneath the limit, and one stallion Homorod had a value above the limit (161 cm). And this batch is homogeneous; the coefficient of variation was 2.14%.

In the ground breeding stallion batch, expressing the current type of Romanian Semigreu breed, waist had a mean of 156.44 cm, with oscillations between 148 and 162 cm.

The coefficient of variation, 2.33%, indicates a high homogeneity of this batch of stallions.

The thoracic perimeter (fig. 2), in breeding ground half breed stallions, Arden x local mares, had a mean of 190.6 cm, with oscillations between 188 and 193 cm.

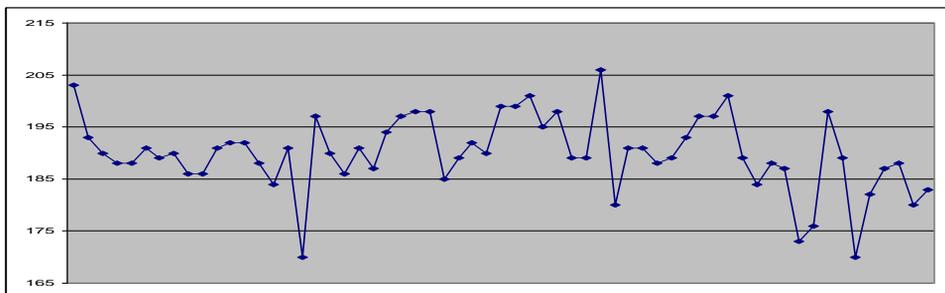


Fig. 2 Thoracic perimeter values at ground breeding stallions used in Rușețu stud (cm)

For the Record class at Romanian Semigreu breed, criteria for evaluation issued in 2008 by the National Equine Authority provide that the thoracic perimeter to be between 184 and 188 cm. With the exception

of one stallion, Codru, all half breed ground breeding stallions had larger sizes for this character.

Regarding the thoracic perimeter, the batch of half breed stallions Arden x Trotter

was a homogenous one ($V\% = 2.84$). The mean the character was 190.75 cm, range between 186 and 203 cm.

Most of the Semigreu Type I stallions (16 of 19) had the thoracic perimeter dimensions above the upper limit recommended for Record Class.

In the case of the Semigreu Type II stallions, the thoracic perimeter registered values between 170 and 206 cm, the batch mean of 193.11 cm. Three of thirteen stallions were within the current limits for the Record Class at Romanian Semigreu breed, eight exceeded the upper limit, and two were below the lower limit.

And in the case of the ground breed stallions Romanian Semigreu, the thoracic perimeter registered values which exceeded the upper limit and the lower limits ranging between 170 and 201 cm.

For the Record Class, at Romanian Semigreu breed, criteria for evaluation issued

in 2008 by the National Equine Authority provide that the shinbone perimeter to be between 22 and 22.5 cm.

For half breed stallions Arden x local mares, the average values of the shinbone perimeter (23.28 cm), was higher than the upper limit imposed on the Record Class. At this batch of stallions the shinbone perimeter values varied between 22.5 and 24.7 cm.

And in the case of the Semigreu Type I stallions the shinbone perimeter had a higher average limit superior to the one for the Record Class, the limits of variation are 21.5 and 25 cm.

The shinbone perimeter (fig. 3) at Semigreu Type II stallions, had a mean value which exceeded the upper limits set for the Record Class, limits of the character oscillating between 21 and 24 cm, the batch being homogenous from this point of view.

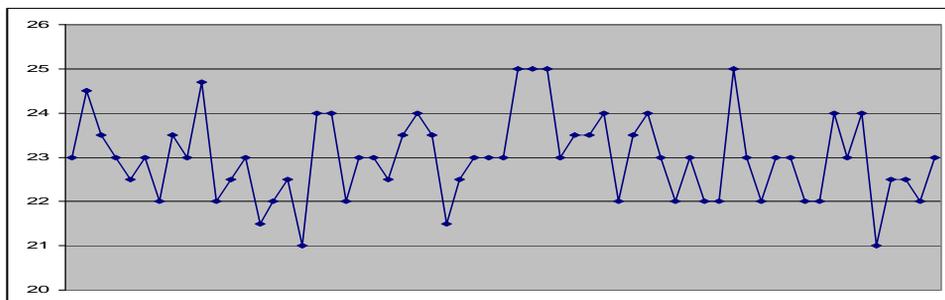


Fig. 3. The shinbone perimeter values at ground breeding stallions used in Rușețu stud (cm)

Even the Romanian Semigreu stallions' batch had a mean of 22.75 cm for shinbone perimeter, slightly higher than the upper limit. The limits of variation of recorded values for the shinbone perimeter on Romanian Semigreu breed stallions were between 21 and 25 cm.

As in the waist case, respectively the thoracic perimeter, the classification of the stallions in the Record Class, respectively ground breed stallion Class, was made taking into account more aspects than the size of a character itself. Also the commission for

evaluation has the right to use for the partial class – for body dimensions, if necessary, a tolerance of up to 2 cm.

Body weight (fig. 4), at half breed stallions, Arden x local mares, ranged between 525 and 584 kg, the batch mean being 550 kg.

At half breed stallions, Arden x Trotter body weight was slightly higher (568.75 kg the mean), values ranging between 530 and 650 kg. In terms of this character both types of half breed were homogeneous.

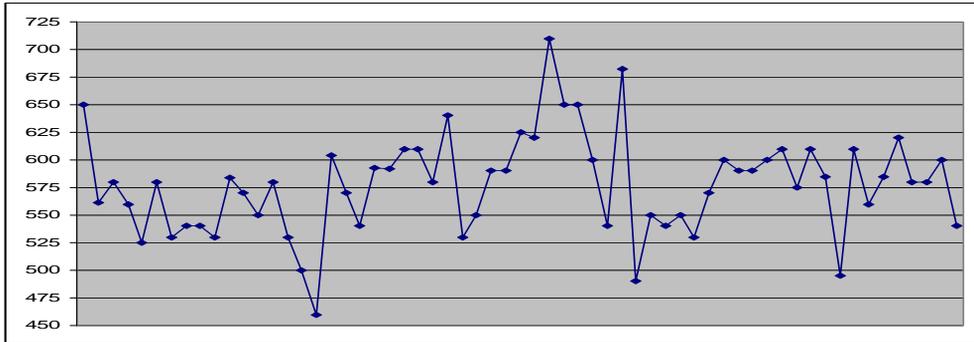


Fig. 4 Body weight values at ground breeding stallions used in Rușețu stud (cm)

Regarding, the body weight of the Semigreu Type I stallions it is noted that this character had a mean of 589.32 kg. The boundaries between which body mass values ranged were 500 and 710 kg, from this point of view in this case being a reduced variability to medium, the coefficient of variation being 8.24%.

And in the case Semigreu Type II stallions the variation coefficient had a higher value, of 10.91%, the batch being medium heterogeneous from this point of view. The limits of variation for body mass character were 460 and 682.

In the ground breed stallions' batch, which is Romanian Semigreu breed, body weight ranged between 495 and 620 kg, the batch is quite homogeneous in this regard. Average body mass for the character, in the case of the 16 Romanian Semigreu stallions, was 583.13 kg.

These results indicate that on the Romanian Semigreu breed it can be improved in order to stabilize the breed characters, such as those on the main body size.

CONCLUSIONS

1) Ground breed half breed stallions, resulting from Arden stallions and local mares, used for breeding at the beginning of forming and strengthening the Romanian Semigreu breed, had a lower waist, than the limits imposed by current criteria for evaluation for the Record category.

With the exception of one stallion, all ground breed half breed in this batch had larger dimensions than the standard breed for

the thoracic perimeter. The shinbone perimeter also had average values over the limit set for the Record Class.

Body weight was on average 550 kg.

2) In the case of the Arden x Trotter half breed ground breed stallions, only five stallions, from eight, have the waist between standard limits. Also, most individuals had values for the thoracic perimeter, and shinbone perimeter over the limits for evaluation criteria.

Average body weight was 568.75 kg.

3) At ground breed Semigreu Type I stallions, although the average character of the 19 stallions (157.53 cm) falls within current limits established for the evaluation, there are 7 stallions with the waist under 156 cm and 5 stallions with the waist over 160 cm. Most of the stallions (16 of 19) had for the thoracic perimeter dimensions above the upper limit recommended for the Record Class. Shinbone perimeter had a mean (23.11 cm) above the limit set up for the Record Class.

Body weight had a mean of 589.32 kg.

4) Ground breed Semigreu Type II stallions had a medium waist of 154 cm, beneath the limits set up for evaluation criteria. For the thoracic perimeter, three stallions from thirteen were between the actual limits for the Record Class at Romanian Semigreu breed, eight exceeded the upper limit, and two were beneath the lower limit. The shinbone perimeter had an average value (23 cm) which exceeded the upper limit set up for Record Class.

Body weight had a mean of 460 and 682 kg.

5) Among the ground breed stallions, which express the actual type of Romanian Semigreu breed, used in breeding in the consolidation of the breed, waist had a mean of 156.44 cm, with oscillations between 148 and 162 cm.

The thoracic perimeter registered values exceeded the upper and lower limit required for evaluation criteria.

The shinbone perimeter had a mean of 22.75 cm, slightly higher than the upper limit of Record Class. Body weight had a mean of 495 and 620 kg, average value being 583.13 kg.

6) Although it is observed many cases of stallions with body size with values that fall outside the limits for evaluation criteria concerning the assessment of horse breeding, issued by the National Equine Authority in 2008, using them as ground breed stallions, therefore their classification in Record class, at least the stallions that have activated after the declaring of Romanian Semigreu as a breed, was made having in view other external considerations, the evaluation commission members being able to tolerate more or less the value of these characters with 2 cm.

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