CONTRIBUTIONS TO THE STUDY OF GROWTH AND DEVELOPMENT OF YOUTH EQUINE BREED FEMALE SHAGYA IN THE CONDITIONS OFFERED BY RĂDĂUŢI TROOP

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Abstract

Based on the corporal measures made after birth, 3 months, 6 months, 1, 2 and 3 years, we observed the main grow values evolution in young horses, females from Shagya race in the conditions offered by Rădăuţi troop.

In this work we analysed 3 dimensions that are more important: waist, thoracic perimeter and tibia perimeter.

Regarding waist, the grow speed was of 14,1% in birth-3 years interval, 16% in 3 to 6 months interval, 6,1% between 6 months and 1 year, 7,6% in the 1-2 years interval and 1,4% in the 2-3 years interval. The grow intensity had the next values: 14,9% for 3 to 6 months, 5,9% for the 6 months–1 year interval, 7,3% in the 1-2 years and 1,4% in 2 to 3 years.

Concerning thoracic perimeter, the relative grow speed was: 12,8% in birth – 3 months interval, 16,7% in 3 to 6 months, 20,9% in 6 months–1 year, 3,6% in the 1-2 years and 6,8% in the 2-3 years. The grow intensity had the next values: 12,1% in the birth–3 months interval, 15,4% in 3-6 months, 18,9% in 6 months–1 year, 3,6% in 1-2 years, 5,4% in 2-3 years.

The tibia perimeter had a relative grow speed of: 8,8 in birth–3 months interval, 24,3% in 3-6 months, 7,5% in 6 moths–1 year, 3,9% in 1-2 years and 3,6% in 2-3 years. The grow intensity had the next values: 8,4% in birth-3 months interval, 21,7% in 3 to 6 months, 7,2% in 6 months to 1 year, 3,8% in 1-2 years and 3,5% in the 2 to 3 years interval.

In conclusion, Rădăuţi troop offers good conditions for the growing of Shagya race.

Key words: troop, Shagya, horses, measurements, size

INTRODUCTION

This scientific paper is part of a larger project that aims the growing and develops process of young horses.

Shagya is currently exploited in Hungary, Czech Republic, Romania, Austria, USA, Croatia etc.

Shagya, considered a long period of time a variety of the Arabian breed, was recognized as a different breed in 1978, when W.A.H.O. (World Arab Horse Organization) elaborated a decision through which it considered that all the horses bred according to the methodology from Babolna, Rădăuţi and Topolcianky as being assimilated to the pure blood Arabian Sgahya horse. In the document attesting the origin of Shagya Arab horse, at the fourth generation of the total of 16 ascendants there cannot be more than 9 Arabian Pure Blood.

Although it has a high percentage of Arabian blood, the Shagya breed distinguishes itself from the Arabian pure Blood through the bigger waist, the stronger skeleton and the conformation specific to a more robust horse *[1,8,12,13,16]*.

At the stud farm in Rădăuţi, the strict specialization on this breed has begun relatively recently, practically after the transfer of the Gidran breed from Rădăuţi to Tulucești (1998). For this reason, taking into account the reduced volume of information from the speciality literature referring to the particularities of the Shagya breed, which most of the times is confounded with the Arabian Pure Blood breed, we have

considered appropriate the start a study, with the purpose to know in more details the process of growth and development of the youth of this breed.

MATERIAL AND METHOD

The biological material was represented by a number of 10 females horses from the equine young horses of Shagya breed , born in 2004 in Rădăuţi stud farm, whose growth was monitored until the age of 3 years old, respectively until the qualification tests.

From the many types of measures made in this direction, in this work we analysed only the 3 dimensions that are more important especially in horse selection activities: waist, thoracic perimeter and tibia perimeter.

In order to monitor the evolution of the growth process we carried out body measurements at birth, at 3 months, 6 months, 12 months, 24 months and 36 months.

The data obtained after the body measurements were processed and statistically interpreted, using classical methods (arithmetical method, the standard mean deviation, the variation analysis etc.)

The growth of the studied body dimensions was assessed based on the following growth:

- The growth energy;
- The growth absolute speed (*Va*);
- The relative growth speed (*Vr*);
- The growth intensity (*Ic*);
- The growth coefficient (*Cc*).

RESULTS AND DISCUSSIONS

The obtain data for corporally measures was processed and analysed (*tab. 1*). After that was made the growing curve for each corporally measure (*fig. 1*) and was calculated the growing indices (*tab. 2; fig. 2*), by the literature recommendation [2, 3, 4, 9, 10, 11].

Table 1
The growth energy

Dimensions / Age	Waist (cm)	Thoracic perimeter (cm)	Tibia perimeter (cm)
birth	97,3 ± 2,37	98,2 ± 1,30	11,2 ± 0,18
3 months	111,0 ± 2,55	110,8 ± 2,88	12,2 ± 0,16
6 months	128,8 ± 1,03	129,3 ± 2,11	15,1 ± 0,48
12 months	136,6 ± 1,14	156,3 ± 1,99	16,3 ± 0,18
24 months	147,0 ± 1,24	162,0 ± 2,72	16,9 ± 0,24
36 months	149,0 ± 1,30	171,0 ± 2,23	17,5 ± 0,21

The obtained results show that on birth the animals waist had a main value of 97,3 cm, at 3 years the main value reached 149 cm, the main grow being of 51,7 cm (53,13%).

In this case, the grow speed was of 14,1% in birth-3 years interval, 16% in 3 to 6 months interval, 6,1% between 6 months and 1 year, 7,6% in the 1-2 years interval and 1,4% in the 2-3 years interval.

The grow intensity had the next values: 14,9% for 3 to 6 months, 5,9% for the 6 months–1 year interval, 7,3% in the 1-2 years and 1,4% in 2 to 3 years.

The thoracic perimeter had on birth a mean value of 98,2 cm. At 3 years the mean was 170 cm, the main grown being of 71,8 cm (73,11%).

The relative grow speed was: 12,8% in birth – 3 months interval, 16,7% in 3 to 6 months, 20,9% in 6 months–1 year, 3,6% in the 1-2 years and 6,8% in the 2-3 years.

The grow intensity had the next values: 12,1% in the birth–3 months interval, 15,4% in 3-6 months, 18,9% in 6 months–1 year, 3,6% in 1-2 years, 5,4% in 2-3 years.

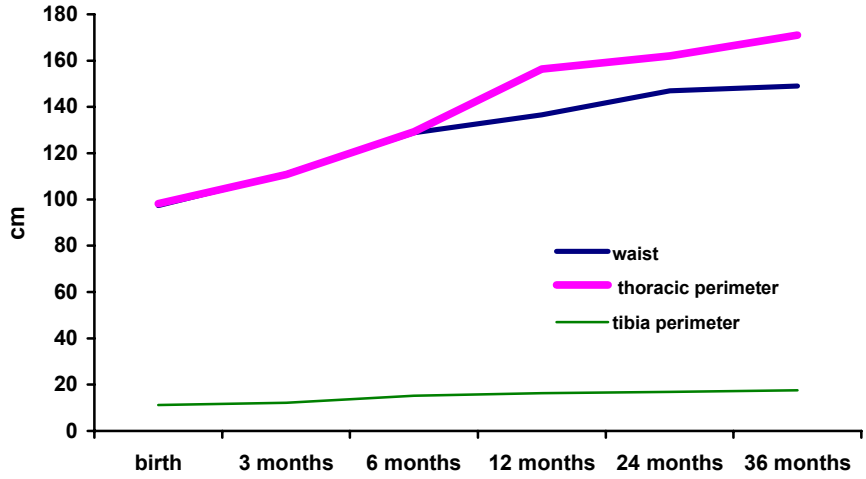

Fig. 1. The growing curve

Table 2
The growing indices

Dimensions	Age	Values (cm)	The growing ind:			
			Va (cm)	Vr (%)	Ic (%)	Cc (%)
Waist	birth	97,3	-	-	-	65,30
	3 months	111,0	13,7	14,1	13,2	74,50
	6 months	128,8	17,8	16,0	14,9	86,44
	12 months	136,6	7,8	6,1	5,9	91,68
	24 months	147,0	10,4	7,6	7,3	98,66
	36 months	149,0	2,0	1,4	1,4	100
	Total growth		51,7	53,1	-	-
Thoracic perimeter	birth	98,2	-	-	-	57,43
	3 months	110,8	12,6	12,8	12,1	64,80
	6 months	129,3	18,5	16,7	15,4	75,61
	12 months	156,3	27,0	20,9	18,9	91,40
	24 months	162,0	5,7	3,6	3,6	94,74
	36 months	171,0	9,0	5,6	5,4	100
	Total growth		72,8	74,1	-	-
Tibia perimeter	birth	11,20	-	-	-	64,00
	3 months	12,18	0,98	8,8	8,4	69,60
	6 months	15,14	2,96	24,3	21,7	86,51
	12 months	16,27	1,13	7,5	7,2	92,97
	24 months	16,90	0,63	3,9	3,8	96,57
	36 months	17,50	0,60	3,6	3,5	100
	Total growth		6,30	56,3	-	-

The tibia perimeter had a mean value of 6,3 cm (56,25%), from 11,2 cm representing the mean value on birth, to 17,5 – the mean value reached at 3 years. It had a relative grow speed of: : 8,8 in birth–3 months interval, 24,3% in 3-6 months, 7,5% in 6 moths–1 year, 3,9% in 1-2 years and 3,6% in 2-3 years.

The grow intensity had the next values: 8,4% in birth-3 months interval, 21,7% in 3 to 6 months, 7,2% in 6 months to 1 year, 3,8% in 1-2 years and 3,5% in the 2 to 3 years interval.

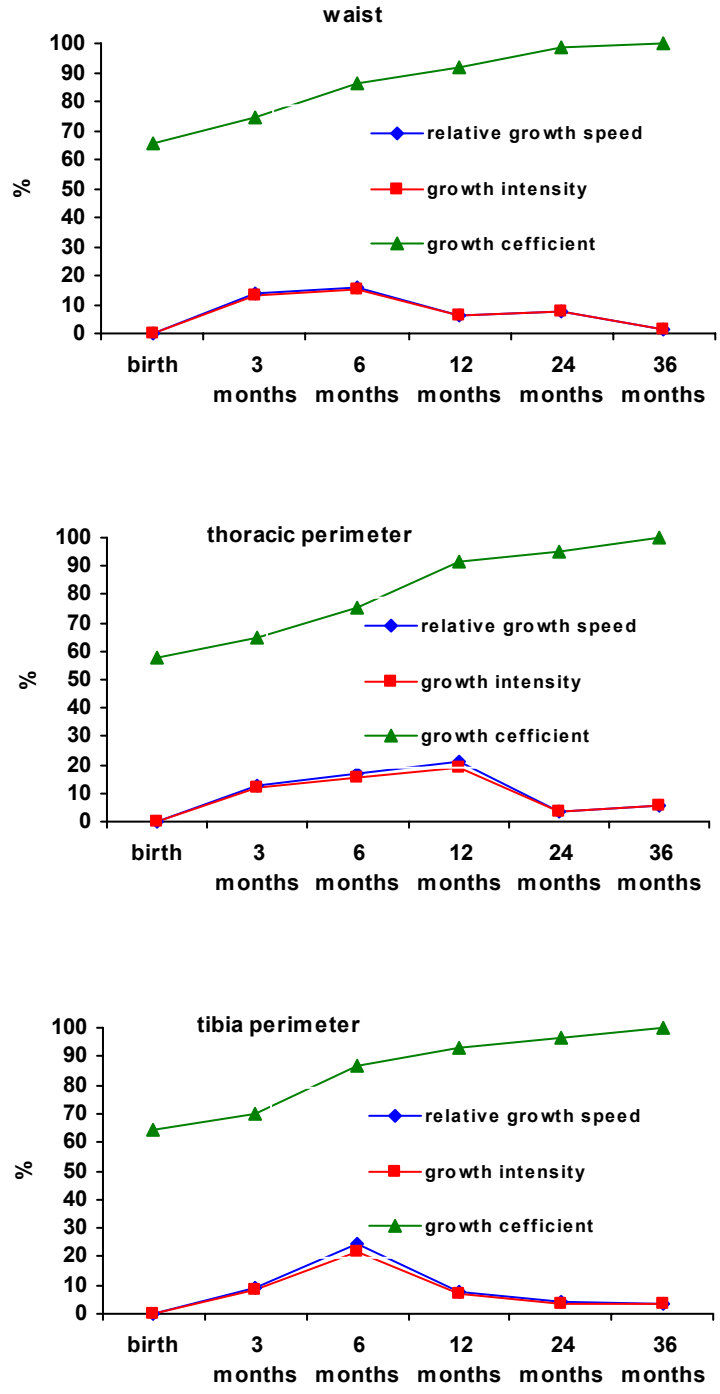

Fig. 2. The growing indices

The presented data in this paper are compatible with the ones in the speciality literature [5, 6, 7, 11, 14, 15], indicating that Rădăuţi horse herd offers good conditions for the growing of Shagya race.

CONCLUSIONS

Based on the researches carried out on the equine young horses of Shagya breed bred in Rădăuţi stud farm, we draw the following conclusions:

- each body region has a growth potential and a characteristic rhythms genetically determined, but in strong interdependence with the other regions, so that when becoming adult, the horse acquires the general harmony and the body format specific to the race;

- the growth process knew a maximum intensity in the first year of life, especially until the age of 6 (lactation period), after which the intensity diminished substantially;

- generally, the growth coefficients registered had values appropriate to the breed standards, but we notice small deviations, such as the fact that the growth speed, respectively the growth intensity, which, according to the data from the specialized literature, registered rather smaller values than the period of 3-6 months.

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