THE STUDY OF THE EVOLUTION REGARDING THE ROMANIAN SPORTS HORSE AND THE MANAGEMENT OF EQUINE SPORTS FROM ROMANIA IN THE EUROPEAN AREA

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Abstract

The study of the Romanian Sports Horse is part of an ample scientific specialty paper, which approaches the issue of exploiting the horses for the equestrian sports and equine courses, the dynamics and distribution of clubs, stud farms and institutes specialized on this type of sports in the national territory, and also the place occupied by Romania in this international movement with a volume and a number of horses for all the branches of equestrian sports, movement named by several researchers and specialists– the ***equestrian industry.***

From the total of 312 horses for obstacles, mastership and complete riding contest, existent in 2004 in the possession of the 28 clubs and equine associations registered at the Equine Federation of Romania, 211 horses were taken in the study, representing 67.6% of the national figure.

The biological material was identified through direct inspection and inquiry within the owners, data completed with primary records from the selection centers and A.N.A.R.Z, and from the Romanian Equestrian Federation.

We estimated the average values and the variability of morphological characters at the studied population, the body indexes and the genetic parameters (heritability, phenotypic and genetic correlations, the improvement value of the nursery stallions), the data being synthesized in tables, completed with graphic representation and photographs, in the majority of cases original.

Key words: horses, equestrian, equine, sports, entertainment

Biological studied material. The research studies on the race horses of Romania were conducted on 379 horses used in horse race disciplines and belonging to the following thoroughbred: Romanian Race Horse, German Race Horse, French Race Horse, Hungarian Race Horse, English Thoroughbred Horse, and Lipitzaner.

Material and method. The biological material was investigated in Romanian private studs and equine clubs, as well as in the Republic of Serbia and Montenegro, country where measurements were made on a sample horse, in order to get a comparative basis for the physico-morphological characteristics of the horses under study. The method used consisted in the study and analysis of the subject horses selected by the research team who was in charge of measuring and recording of the found values in scientific tables for each of the respective horses.

The utilised research methodology. The work method utilised for this research consisted in studies at the macroeconomic level and studies based on samples taken at the level of equine clubs and associations, using different sources of information.The selective work method based on samples consisted in interviews with each and every owner, looking for complete information which, generally, cannot be found in the primary zootechnical registrations, nor in the current statistics

The collected information was registered down on a record card which laid at the basis of this study, the data being completed with direct determinations and own observations. The primary data, while still in an incipient stage, were ranked by equine clubs and associations, by thoroughbred and by the entire equine population, taking into account the type

of aptitude: obstacle race, breaking in, full equine event, pairs of horses, endurance etc. The avarage values and the variation of the morphological characteristics of the studied population, as well as the body indexes were estimated; the data were synthesized in tables, completed with graphic presentations and photos, most of them in original.

The wide variety of the broached theme imposed the diverification of the research, processing and interpretation of the data, in accordance with their specificity. To establish the scientific truth, we combined the ananlysis with the synthesis, the induction with the deduction, the general with the particular, the simple with the complex. All the rersults of the research were analysed from biological, technological, managerial and marketing point of view.

Obtained results. Structure of thoroughbred and age of the studied equine population. Seven thoroughbred types were included in the structure of the equine population under this study, the main share referring to Anglo-Arab Race Horse (44,3%) and the German Race Horse (19,3%). The English Thoroughbred, Lipitzaner and the Romanian Race Horse have an approximatively equal share (10,8%), and the French and Hugarian Race Horse represents only 2,4% each.

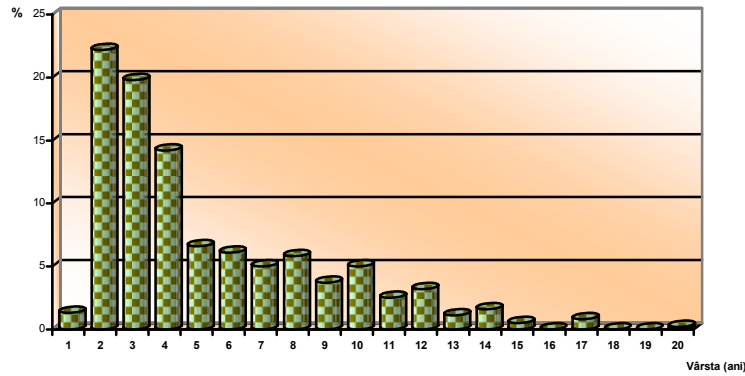

Fig. 1. Age structure of the equine population in the Romanian equine sports

Mention should be made of the fact that, since the latest years, the horse owners have resorted to importation of race horses from traditional countries (Germany, France, Hungary, Ireland), who, due to their high genetic value, contributed to the improvement of the performances of the autochthonous horses.

Referring to the sex ratio, there were 50,7% males and 49,3% females within the studied equine population . Further to the ananlysis of the age presented in tbl. 2 şi fig.1, several significant aspects resulted. Thus, the horses over 10 years old represent 10,3%. With respect to the Romanian Race Horse, the English Thoroughbred Horse, and the German Race Horse, the predominant aged is from 1 to 4 years, while the Anglo-Arab Race Horse, the French and the Hungarian Race Horse were predeominantly from 5 to 10 years old. The investment made in the obstacle race horse and in the breaking in horse justifies the use of the horse till an advanced age, up to 16-18 years for obstacle horses and 20-24 years for break in horses. . Mention should be made of the fact that the male sex is predominant with the Romanian Race Horse, the English Thoroughbred Horse and the sports horses imported from France and Hungary, while the female sex is predominant with the Lipitzaner, the Anglo-Arab and the German Race Horse.

Table 2.
Sex ratio within sports equine population in Romania

Rasa	*Total din care:*		*Masculi*		*Femele*	
	n	*%*	*N*	*%*	*n*	*%*
Cal de Sport Românesc	41	10,8	26	63,4	15	36,6
Cal de Sport Germania	73	19,3	31	42,5	42	57,5
Cal de Sport Franţa	9	2,4	5	55,6	4	44,4
Cal de Sport Ungaria	9	2,4	6	66,7	3	33,3
Pur Sânge Englez	38	10,0	25	65,8	13	34,2
Lipiţan	41	10,8	20	48,8	21	51,2
Anglo-Arab	168	44,3	79	47,0	89	53,0
Total Cai de Sport	**379**	**100,0**	**129**	**50,7**	**187**	**49,3**

Colours and colour peculiarities

Fig.3 şi tbl. 4 present the colour frequency and the colour characteristics of the sports equine population in Romania. Further to the registered outcomes, it results that the highest frequency in colour refers to the dark bay (62,8%), followed by the sorrel (14%), bluish grey (10,5%) and black (9%), while the deres (2,4%) and the white (1,3%) have a reduced frequency. This order is approximatively the same within the thoroughbred types, with special mention that the dark bay with much more frequent with the Anglo-Arabian Horse (78,6%), and the bluish grey with the Lipitzaner (48,8%). Sorrel is much more frequent with the German and Hungarian Race Horse (13,7%).

Colour peculiarities are very frequent at the head level (13,7%) and at the members level (97,1%), while at the body level the frequency is reduced (13,2%). Among the colour peculiarities at the head level, the most frequently met ones are: star (34%), blaze (11,2%), sneeze (7,1%), frog mouth and lamp each with 6,9%.

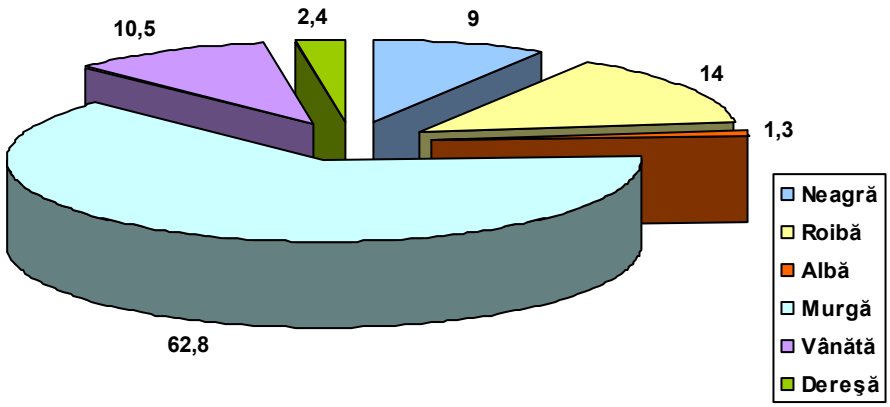

Fig. 3. Colour frequency, in percentage, within the sports equine population in Romania

Mention should be made of other existing colour peculiarities of a more reduced frequency (3 - 4%), as well as of the fact that only 12,4% of the ananlysed subjects do not present colour peculiarities at the head level. Within the various thoroughbred types, the „star" colour peculiarity has a frequency of 43,8% with the German Race Horse and 42,1% with the English Thoroughbred Horse.

The colour peculiarities at the members level cover a rather wide range, but the most frequently met were withe fetlock (gr. I – 16,6%; gr. II – 22,7%; gr. III – 26,5%) and coronet (21,6%). As a rule, the fetlock and

the coronet colour peculiarities are associated with the white hoof (5,3%), which represents an important deficiency, since the lack of the white melanine pigment at the level of the hoof horn leads to the diminution of its strength. As it results from the data presented in table 4, the colour peculiarities at the body level have a reduced frequency, only of 13,2%. The coal spots present a higher frequency: 8,5% within the total equine population and 30% within the German Race Horse population. The highest frequency of the colour pecularities was registered at the members level (97,1%), which means that only 2,9% did not present any peculiarity.

Table 4
Colour frequency within sports equine population in Romania

Specificare	*Cal de Sport Românesc*		*Cal de Sport Germania*		*Cal de Sport Ungaria*		*Cal de Sport Franța*		*Pur Sânge Englez*		*Lipițan*		*Total populație*	
	N	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Culori de bază, din care:														
• Neagră	5	12,2	3	4,1	6	44,5	-	-	1	2,6	7	17,1	34	9,0
• Roibă	9	21,9	10	13,7	1	11,1	4	44,4	13	34,2	-	-	53	14
• Albă	2	4,9	-	-	-	-	-	-	-	-	3	7,3	5	1,3
• Murgă	18	43,9	56	76,7	3	33,3	4	44,4	20	52,6	5	12,2	238	62,8
• Vânătă	6	14,6	3	4,1	-	-	1	11,2	4	10,6	20	48,8	40	10,5
• Dereşă	1	2,4	1	1,4	1	11,1	-		-	-	6	14,6	9	2,4

The most reduced frequency was registered with the white and deres colours , in a percentage of 7,3% and 4,9% with the white colour for Lipitzaner bred and the Romanian Race Horse, respectively 14,6% deres colour for Lipitzaner. The colour peculiarities at the members level cover a rather wide range, but the most frequently met were whitefetlock (gr. I – 16,6%; gr. II – 22,7%; gr. III – 26,5%) and coronet (21,6%). As a rule, the whitefetlock and the coronet colour peculiarities are associated with the white hoof (5,3%), which represents an important deficiency, since the lack of the melanine pigment at the level of the hoof horn leads to the diminution of its strength.

Phenotypical parameters within the Romanian Race Horse population

Scientific remarks regarding the body conformation, constitution and harmony

Knowing the phenotypical parameters of the Romanian Race Horse represents an actual problem, if we take into account that similar studies are inexistent and that the scientific substantiation of the selection and of the genetic amelioration should be based on the analysis of the average values and of the variability of the morphological characteristics of the equine population used in equine performance and pleasure sports. The problem is even more important, as the economic and market necessities require ever more the horse for equine sports. The genetic amelioration of the Race Horse aims at a certain standard of the used thoroughbred, who should possess specific morphological characteristics, in accordance with which the selection.is made.

The selection criteria are based on other elements as well, such as:

- economnic importance of the characteristics, in the sense of their specially proved efficiency in animal reproduction;
- stronger heredity (as much as possible),of the morphological characteristics, but which is relatively small with the Race Horse, in respect of some important characteristics;
- possibility to easily but efficiently determine the morphological characteristics, by means of body measurements or moving time measurements;

- knowledge of the correlations among different morphological characteristics, as well as of the aptitudes proved in sports races;
- existance of a large quantity of phenotypical and genetic variation, in order to have a wide basis of selection necessary to obtain the desired type.

The development of the characteristics representing criteria of selection for the Race Horse leads to new genetic constructions and to the obtaining of phenotypes with good capacity of the body to get adapted to efforts, during the equine training and races, to food conditions and to environment work conditions.

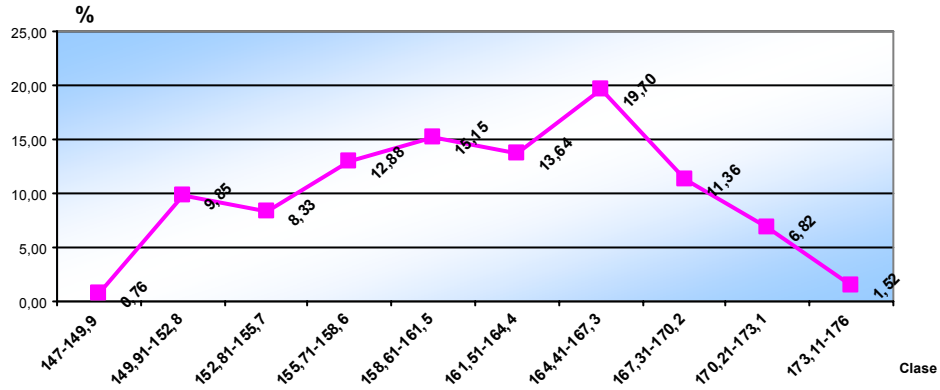

Fig. 5. Variation of the Race Horse stature

We will present, in conformity with fig.5, the phenotypical parameters of the Romanian Race Horse, subject to thoroughbred and origine, wishing thus to contribute to the knowledge of the genetic value of these horses, as well as to the proper management of the performant equine sports. As mentioned, the population under study counted 379 horses belonging to the following thoroughbred:Romanian Race Horse, German Race Horse, French Race Horse, Hungarian Race Horse, English Thoroughbred Horse, Lipitzaner Horse and Anglo-Arab Horse.

CONCLUSIONS

The horse effectives that were studied within the frame of our research work, at private Romanian studs, equine clubs, during the training of race horses at Ploiesti hippodrome, led to the finalization of a practical research, based on statistics of real scientistic value. Determination measurements concerning the transmission of the main morphological characteristics were recorded on scientific cards and analysed, based on the study of 21 stallions who had at least three descendents and who were kept under observation during the research work. Thus, the above figure clearly shows the amelioration value achieved with the imported stallions, due to the scientific research which played a decisive role both in the reproduction selection within the sports equine thoroughbred, as well as in the increase of the genetic level of the offsprings, due to the genetic value of the parents. Out of the total number of stallions that produced sports descendants, there are only 3 Romanian stallions ranked among the top 10, the other stallions belonging to private studs and having been imported after 1990. This points out the care of the private investor with respect to capital investment, proving the existance of an elaborated market strategy, through an European system type of management.

REFERENCES

Journal articles

[1] Bodo, I., Nemeth, C., 1993 – The breeding and performance registration system in Hungary. 43-th Annual Meeting of the EAAP, Aarhus.

[2] Călinescu, E., Velea, C., Marcu, N., Ujică, V., David, V., 1984 – La fondamentation des certains critères de sélection utilisés aux races de chevaux de Roumanie. Bulletin de l'Academie des Sciences Agricoles et Forestières, nr. 11, Bucureşti.

[3] Cothran, E. G., MacCluer, J.W., 1987 – Genetic differentation associated with gain within American Standardbreed horses. Animal Genetics, 18, p.2.

[4] Dorofeev, V.N., 1982 – The methods of early estimation of sportive abilities in saddle horses. A paper presented at 33st Annual meeting, Leningrad, USSR.

Books

[5] Dulugeac, I. 2006 – Sports Horses, Arena Printing House, Bucharest.

[6] Filip, N., 1915 – Zootehnie specială – Caii (form II), Imprimeria Statului, Bucureşti.

[7] Général Decarpentry, 1991 – Equitation Académique, Édition Lavauzelle, Paris.

[8] Onslow, R., 1994 – Royal Ascot, Crowood Printing houde Edinborough.

[9] Ujică, V., Lungulescu, Gh., Marcu, N., 1982 – Tehnologia creşterii cabalinelor şi echitaţi. Ed. Didactică şi Pedagogică, Bucureşti.

[10] Warren, E.J., 1992 – Horse Breeding and Management.Elsevier, Amsterdam.