

STUDY ABOUT WITHERS HEIGHT AVERAGE PERFORMANCES IN HUCUL HORSE BREED –OUSOR BLOODLINE

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Abstract

Study of average performances in a population have a huge importance because, regarding a population, the average of phenotypic value is equal with average of genotypic value. So, the studies of the average value of characters offer us an idea about the population genetic level.

The biological material is represented by 90 hucul horse from Ousor bloodline divided in 3 stallion families (tab. 1) analyzed at 18, 30 and 42 months old, owned by Lucina hucul stood farm.

Analyzing the data presented we find smaller value than at the other bloodlines but between characteristic limits of the breed (the skeleton at Ousor bloodline is smaller). The variability of withers height is smaller at both sexes also and this minds that between individuals are small differences due to environmental condition.

Key words: withers height, hucul, Ousor, bloodline, Lucina

INTRODUCTION

The study of average performances for different characters in a population, have a great importance because, at the population level, the average of phenotypics value are equal with the average of genotypics value (Arnason T., 1984). That's mind that the study of average performances give us an idea about the genetic level of population.

MATERIAL AND METHOD

For realising the purposed objectives, biological material became from Lucina Stood Farm, Suceava county, represented by a sample with 90 horses (Males and females) divided at 3 stallion familys, presented in tab. 1.

Tabel.1

The biological material

Bloodline	Family size	Male	Female
OUSOR	90	35	55
- Ousor VII	29	9	20
- Ousor VIII	39	15	24
- Ousor IX	22	11	11

The sample was studied at three different ages:

- First grading – 1.5 years old
- Second grading – 2.5 years old

- Third grading – 3.5 years old
After the third grade the individuals support a performances testing for energetic capacity.

RESULTS AND DISCUSSIONS

The average performances for withers height character are presented in tab. 2 and fig. 1.

Analysing the results from tab. 2, we observe that the average value for withers height are between the characteristical limits of Hucul breed. We observe significant differences of character in special at 3.5 years old.

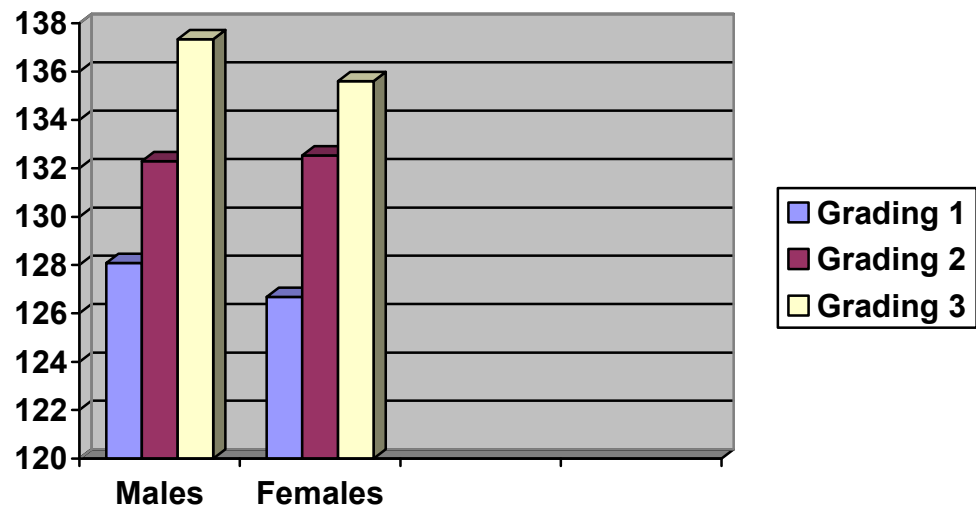


Fig. 1 – Withers height dynamic in Ousor bloodline

It's obvious a normal evolution for growth process, the value being approximately equals for males and females, with significant differences only at 3.5 years old, when the withers height for stallion is bigger with 1,74 cm than females height.

For statistic testing of observed differences between halfsibs familys from Ousor bloodline at all three analysed ages, we used the *Fisher* test (Popescu-Vifor Șt., 1985). For observing between which familys are the significant differences, we used *Tuckey* test.(Tacu A., 1968)

Tabel. 2

Family		Sex		Age (years)											
				1,5			2,5			3,5					
				n	$\bar{X} \pm S_{\bar{X}}$	s	v%	n	$\bar{X} \pm S_{\bar{X}}$	s	v%	n	$\bar{X} \pm S_{\bar{X}}$	s	v%
O VII		9	139,22 ± 1,21	3,63	2,61	9	133,22 ± 0,85	2,54	1,91	9	136,89 ± 1,16	3,48	2,54		
O VIII	M	15	128,4 ± 0,59	2,29	1,78	15	132 ± 0,95	3,66	2,77	15	135,73 ± 0,53	2,07	1,53		
O IX		11	126,73 ± 1,35	4,47	3,53	11	131,91 ± 0,81	2,70	2,05	11	139,91 ± 0,77	2,55	1,82		
Total M		35	128,09 ± 0,59	3,48	2,72	35	132,29 ± 0,52	3,08	2,33	35	137,34 ± 0,53	3,14	2,29		
O VII		20	129,25 ± 0,69	3,09	2,39	20	134,45 ± 0,74	3,32	2,47	20	137,5 ± 0,58	2,59	1,88		
O VIII	F	24	125,46 ± 0,62	3,06	2,44	24	131,63 ± 0,77	3,77	2,86	24	134,54 ± 0,61	2,99	2,22		
O IX		11	124,73 ± 0,84	2,80	2,24	11	131 ± 0,45	1,48	1,13	11	134,45 ± 0,88	2,91	2,16		
Total F		55	126,69 ± 0,48	3,56	2,81	55	132,53 ± 0,48	3,54	2,67	55	135,6 ± 0,42	3,14	2,32		
Total bloodline		90	127,23 ± 0,38	3,58	2,81	90	132,43 ± 0,35	3,36	2,54	90	136,28 ± 0,34	3,24	2,38		
The significance of difference observed between sexes (Student)		1.77 ^{NS}			0.32 ^{NS}			2.49 [*]							

CONCLUSION

The calculated F value indicate significant differences of withers height average value between halfsibs families from Ousor bloodline. (at 1.5 years old $F = 8.32$; at 2.5 years old $F = 5.69$ and at 3.5 years old $F = 5.98$).

The calculated value for *Tuckey* test, point out that at 1.5 years old we have significant differences performances of Ouşor VII family and Ouşor VIII and Ouşor IX family. At 2.5 years old signification of observed that this differences are at the same level. At 3.5 years old we can observe significant differences between performances of Ouşor VII family and Ouşor VIII family, and also between performances of Ouşor VII family and Ouşor IX family.

The growth process in general, and the withers height evolution in special, vary in postutherin period in correlation with age, with an decreasing trend of values due to this factor(Marginean Gh., 1997).

By analysing this data we can observe:

- after parturition the hucul foals from Ousor bloodline have a normal growth.
- The highest growth intensity it's registered until 1.5 years old
- The biggest value for withers height growth are in the first period of postutherin life with a decreasin trend in relation with age factor.

After all this observation we can affirm that any kind of deficiencies in foals and young horses management and technology will have a very serious negative effect for production capacity and will be unrecoverable (Georgescu Gh., Petrache E., 1982).

It's very necessary an intensification of selection to improve the withers heigt value (Saastamoinen M., 1990). It is also possible to find the causes in the inefficiency of comission for horse selection (Marginean et al., 2005).

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