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<sup>1</sup>Department of Ethology and Technological Basis of Animal Production  
University of Life Sciences in Lublin, Akademicka 13, 20-950 Lublin,  
e-mail: wanda.krupa@up.lublin.pl

<sup>2</sup>Department of Animals Production and Poultry Products Evaluation  
University of Rzeszow, Zelwerowicza 4, 35-601 Rzeszów,  
e-mail: j.topczewska@gmail.com

WANDA KRUPA<sup>1</sup>, JADWIGA TOPCZEWSKA<sup>2</sup>

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**Assessment of the degree of preparation of Hucul horses  
for trials of performance**

Ocena stopnia przygotowania koni huculskich do prób dzielności

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**Summary.** The objective of the study was to assess the degree of preparation of Hucul horses for performance trials during 2009 and 2010. Trials for performance for this breed are regarded as universal and well organized. The field trials of performance consist of conformation ratings and Hucul's path. The minimum score needed to pass the trials is 85 points for mares and 95 for stallions. 222 and 191 horses were registered for the performance trials in 2009 and 2010, respectively. It was observed that mare families of Żyrka, Gurgul, Laliszka and Polanka as well as the male line of Pietrosu were less represented in 2010. In 2010 the stallions were poorly prepared for the trials (as 20% and 13.2% did not pass the trials in 2010 and 2009, respectively) while mares performed better, with 10.2% and 20.1%, respectively. In the assessment of the horse's exterior, in 2009, greater differentiation was observed, which was statistically corroborated. Similar final scores in subsequent years were observed in horses representing the Gurgul stallion line and in the mares representing the families of Polanka, Wołga and Wyderka. Path analysis results show that mares obtained higher scores in 2010.

**Key words:** Hucul horses, performance test, Hucul path

#### INTRODUCTION

The Hucul horse is one of the oldest breeds with consolidated genotype bred in Poland [Program hodowli... 2007]. They were primarily used as pack or saddle horses. They easily overcame rough mountain terrains, under heavy load, exhibiting considerable dexterity and resilience [Tomczyk-Wrona 2006]. According to Holländer [1938] the

Hucul breed of horses closely inherit the positive characteristics of conformation, especially low-legs, depth and positive nature, gentleness and toughness, health, perseverance at work and being indiscriminate as regards feed. Although they represent a type that is universally usable, they are however, utilized predominantly in mountains tourism and therapeutic riding [Jackowski 2005, Purzyc 2007, Tomczyk-Wrona 2006].

The Hucul path was proposed as part of the assessment of this breed in the early 1990s of the 20<sup>th</sup> century. Currently, there are 10–13 championships to measure their usefulness each year. Making performance test mandatory in order to report mares for the Conservation of Genetic Resources Program for Hucul horses has contributed immensely to their huge publicity. They are also a great way to promote the breed and demonstrate its versatility. The increasing popularity of the Hucul breed of horses has resulted in the spread of their breeding beyond their typical mountain terrain, which may pose a threat to specific traits. Uniformity of trials allows for the elimination of individuals not meeting the standards for the breed.

The objective of the study was to assess the degree of preparedness of Hucul horses for performance test having regard to their genealogy during 2009 and 2010.

#### MATERIAL AND METHODS

Material for the studies were the results of trials of performance of Hucul horses obtained in 2009 (13 trials) and 2010 (11 trials). It covered 222 and 191 horses respectively. The age requirements for Hucul horses at start of trials was the completion of 36 months. The basic field tests include their exterior evaluation (maximum of 50 points) and field trial for a maximum of 80 points. The exterior assessments consists of the evaluation of the type, conformation, movement in walk and trot as well as overall impression and preparedness for exhibition. The Hucul trail or path is to be a test of its ability to overcome natural and man-made obstacles, courage, ability, obedience and training of the horse. The competition is conducted over a distance of between 1,500 and 2,000 meters across 16 obstacles. The distance, pace, standard time and the order of tackling obstacles as well as credit points for correctly overcoming various obstacles are provided at the pre-competition technical briefing. Of the 16 barriers 12 are defined and mandatory for each trail while 4 are to be selected from a given list of obstacles. Details of regulations concerning the basic field trials of performance are provided in the Annex to the Program for Breeding Hucul Horses [Program hodowli... 2007]. The obtainable pass mark in the performance test is 85 points for mares and 95 points for stallions for each of the items.

To assess the degree of preparedness for the trials only animals that passed the performance tests during the first or second tests were considered. In order to assess the impact of genealogy on the results of performance trials, the analysis took into account the male's line and female's family. The calculations were performed using the Statistica 9.0 program. Differences among groups were analyzed using one-way analysis of variance (ANOVA) and LSD post-hoc test.

## RESULTS AND DISCUSSION

The number of Hucul horses, with regards to male lines, registered for the trials in 2009 and 2010 is summarized in table 1. An approximate number of stallions were entered for both years. Comparisons of families showed clearly that the least represented in 2010 were stallions from the Pietrosu family with 11 entries in 2009 and 4 in 2010. In the case of mares, on the other hand, only the family of Ousor entered a greater number for the trials in 2010. While the stallions were in 2010 less well-prepared for the trials, the mares were better as 13.2% and 20% as well as 20.1% and 10.2% respectively did not pass the trials (tab. 1).

Table 1. Hucul horses that under-went the performance trials with regards to male lines  
Tabela 1. Konie huculskie poddane próbom dzielności z uwzględnieniem linii męskich

Male lines Linia męska	2009						2010					
	stallions ogierzy			mares klacze			stallions ogierzy			mares klacze		
	n	not included nie zaliczyły		n	not included nie zaliczyły		n	not included nie zaliczyły		n	not included nie zaliczyły	
		n	%		n	%		n	%		n	%
Goral	8	-	-	37	6	16.2	9	1	11.1	30	1	3.3
Pietrosu	11	3	27.3	30	3	10.0	4	-	-	29	2	6.9
Hroby	10	-	-	49	12	24.5	10	3*	30.0	44	8	18.2
Gurgul	3	2*	50.0	40	11	27.5	3	1	33.3	23	3	13.0
Ousor	3	2*	50.0	14	2	14.3	5	1	20.0	19	2	10.5
Polan	-	-	-	4	1	25.0	1	-	-	7	-	-
Prislop	2	-	-	3	-	-	3	1	33.3	2	-	-
Obce	1	-	-	7	2	28.6	-	-	-	2	-	-
Together	38	7*	13.2	184	37	20.1	35	7	20.0	156	16	10.2
Razem												

\* 2 stallions did not approach in 2009 year for Hucul path; in 2010 year stallion Picasso (males Hroby) it started twice and it has not included

\* 2 ogiery w 2009 r. nie przystępowały do ścieżki huculskiej; w 2010 r. ogier Picasso (ród Hrobego) startował dwa razy i nie zaliczył

Table 2 summarizes the number of Hucul horses entered for the gallantry trials in 2009 and 2010 taking into account their membership of female lines. It is clearly shown that fewer individuals were entered in 2010 with lesser representation being from the mares of Żyrka, Gurgul, Laliszka and Polanka families.

Results of plate assessment for Hucul horses representing male lines are summarized in table 3. The average score for conformation for horses that passed the first trial was  $38.39 \pm 2.02$  points, while for the second it was  $39.09 \pm 2.05$  points. Greater variation in scores for exterior assessment were demonstrated among horses tested during the first trial ( $P \leq 0.01$ ).

According to Budzyńska *et al.* [2003], during the 2002 championships in Rudawka Rymanowska the plate rating and results of trials depended significantly on the origins of the father. High results were obtained by individuals from the Gurgul line during the trials.

Table 2. Hucul horses that under-went the performance trials with regards to females line  
Tabela 2. Konie huculskie poddane próbom dzielności z uwzględnieniem rodzin żeńskich

Female lines Rodzina żeńska	2009						2010					
	stallions ogier		mares klacze		stallions ogier		mares klacze					
	n	not included nie zaliczyły	n	not included nie zaliczyły	n	not included nie zaliczyły	n	not included nie zaliczyły	n	not included nie zaliczyły	n	%
Agatka	-	-	-	8	5	62.5	-	-	-	9	2	22.2
Bajkałka	3*	-	-	10	4	40.0	2	-	-	12	3	25.0
Czeremcha	1	-	-	4	-	-	2	-	-	6	-	-
Gurgul	1	-	-	10	-	-	2	-	-	6	-	-
Górkalka nowosądecka	4	-	-	9	1	11.1	1	-	-	13	1	7.7
Laliszka	5	1	20.0	16	2	12.5	1	1	100.0	6	1	16.7
Nakoneczna	2	-	-	3	-	-	2	1	50.0	2	-	-
Polanka	10	-	-	47	7	14.9	7	2	28.6	27	3	11.1
Wołga	4	1	25.0	10	4	40.0	7	2	28.6	14	-	-
Wrona	2	1	50.0	9	2	22.2	1	-	-	9	-	-
Wyderka	3	1	33.3	26	4	15.4	4	-	-	31	3	9.7
Reda	-	-	-	3	1	33.3	2	-	-	2	-	-
Sroczka	1*	-	-	11	4	36.4	2	1	50.0	11	1	9.1
Żyrka	-	-	-	4	-	-	1	-	-	2	-	-
Obca	2	1	50.0	14	3	21.4	1	-	-	6	2	33.3
Together – Razem	38	5	13.2	184	37	20.1	35	7	20.0	156	16	10.2

\* 2 stallions did not approach in 2009 year for Hucul path

\* 2 ogiery w 2009 roku nie przystępowały do ścieżki huculskiej

Results of the basic trials of performance for male lines are summarized in table 4. Stallions that passed at the first attempt obtained only slightly higher final results than mares (stallions  $110.53 \pm 7.01$  points; mares  $108.10 \pm 9.79$  points). The highest score for performance trials in 2009 was obtained by members of the Pietrosu line while for 2010 it was for Ousor line ( $112.53 \pm 6.74$  points). High final scores for the 2010 championships were obtained by stallions representing both Hroby ( $113.65 \pm 7.78$  points) and Goral ( $113.50 \pm 5.69$  points) lines. Differences between individuals representing male lines were statistically significant.

According to Cywińska [2000] competitions testing the utility traits of participating horses had greatest influence the results of the championships. Higher results for field rally were obtained by mares in the studies earlier mentioned.

Results of the plate assessment as regards female families are summarized in table 5. Mares from Bajkałka and Nakoneczna were rated over 40 points in 2009. Differences between individuals representing the various families were statistically significant.

Results of the basic performance trials for Hucul horses having regards to their families are summarized in table 6. In analyzing the scores obtained by horses representing the various families it was observed that higher final results were achieved in 2010 by mares representing Czeremcha and Żyrka families. In addition, mares representing these families the basic gallantry trials at the first attempt in 2009 and 2010. Favourable results were also demonstrated during the first trials by horses in the Górkalka nowosądecka family in 2010. Statistically significant differences were confirmed amongst individuals that passed the gallantry trials at the first attempt.

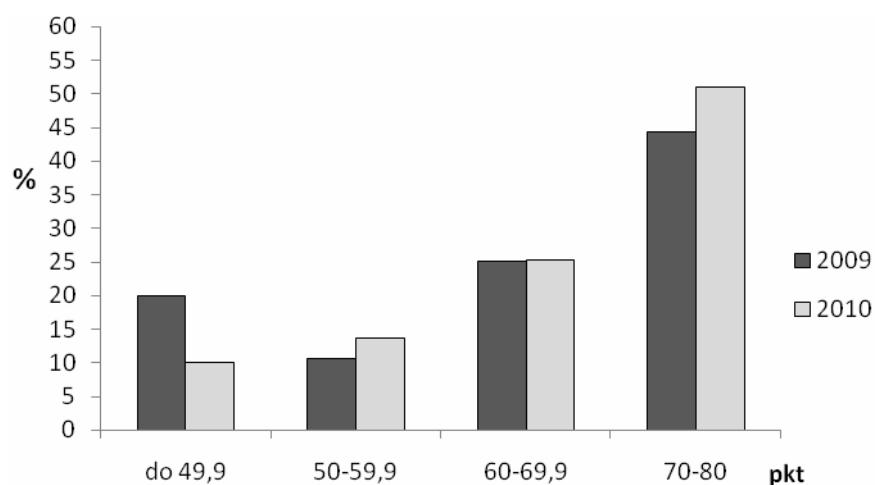


Fig. 1. Scores for Hucul path by mares during 2009 and 2010  
Ryc. 1. Punktacja w ścieżce huculskiej klaczy w 2009 i 2010 r.

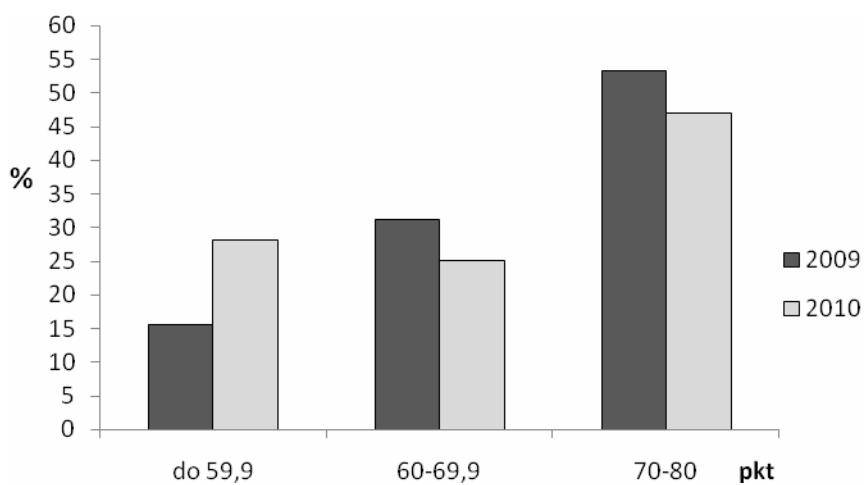


Fig. 2. Scores for Hucul path by stallions during 2009 and 2010  
Ryc. 2. Punktacja w ścieżce huculskiej ogierów w 2009 i 2010 r.

Table 3. Results of the assessment of conformation of Hucul horses with regards to male lines (ps)  
 Tabela 3. Wyniki oceny pokroju koni huculskich z uwzględnieniem linii męskich (pkt)

Male lines Linia męska	2009										2010										
	they have included during first test zaliczyły podczas pierwszej próby					stallions ogierы					total ogółem					they have included during first test zaliczyły podczas pierwszej próby					
	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	
Pietrosu	21	38.84 <sup>aA</sup>	1.92	17	39.10	1.84	4	37.75	2.09	31	38.62	1.75	27	38.80 <sup>b</sup>	1.80	4	37.42	0.77			
Hroby	37	38.78 <sup>BB</sup>	1.85	29	38.81	1.78	8	38.66	2.19	29	38.76 <sup>a</sup>	1.70	24	38.71	1.82	5	39.00	1.09			
Goral	33	38.39 <sup>aC</sup>	2.27	27	38.62	2.36	6	37.39	1.60	31	38.48	2.45	27	38.70	2.30	4	37.00	3.32			
Gurgul	26	38.14 <sup>eD</sup>	1.89	25	38.16	1.92	1	37.67	0.0	20	37.63 <sup>a</sup>	1.95	20	37.63 <sup>ab</sup>	1.95	-	-	-			
Ousor	11	38.73 <sup>FE</sup>	1.30	10	38.73	1.37	1	38.67	0.0	15	38.88	1.41	11	39.12 <sup>a</sup>	1.48	4	38.21	1.09			
Prislop	5	35.40 <sup>abcdef</sup> ABCDE	1.92	3	35.11	2.52	2	35.63	1.18	4	37.71	3.70	2	38.75	2.71	2	36.66	5.42			
Polan	1	34.00	0.0	1	34.00	0.0	-	-	-	8	38.48	1.38	7	38.14	1.08	1	40.83	0.0			
Obcy	6	37.99 <sup>c</sup>	1.23	5	37.99	1.38	1	38.00	0.0	2	39.16	0.94	2	39.16	0.94	-	-	-			
Razem	140	38.39	2.02	117	38.49	2.04	23	37.85	1.86	140	38.48	1.96	120	38.56	1.91	20	37.98	2.23			
Together																					
	they have included during second test zaliczyły podczas drugiej próby										they have included during second test zaliczyły podczas drugiej próby										
Pietrosu	14	39.02	1.96	10	38.97	1.82	4	39.17	2.57	-	40.13 <sup>a</sup>	2.03	12	40.22	2.19	-	-	-	39.55	0.31	
Hroby	10	38.03 <sup>ab</sup>	1.77	8	38.78	0.88	2	36.67	4.24	14	38.83	0.98	2	39.00	1.17	4	38.75	1.06			
Goral	6	40.61 <sup>ac</sup>	2.05	4	41.50 <sup>a</sup>	1.91	2	38.83	0.71	-	2	37.00 <sup>a</sup>	1.88	-	-	-	-	-	-	-	
Gurgul	4	39.75	0.99	4	39.75	0.99	-	-	-	6	38.92	2.22	6	38.92	2.22	-	-	-	-	-	
Ousor	2	41.33 <sup>bd</sup>	0.94	2	41.33 <sup>b</sup>	0.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Prislop	-	-	-	-	36.66 <sup>ab</sup>	1.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Polan	2	36.66 <sup>cd</sup>	1.89	2	36.66 <sup>ab</sup>	1.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Obcy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Together	38	39.09	2.05	30	39.26	1.89	8	38.46	2.59	28	39.37	2.01	20	39.71	2.14	8	38.51	1.41			
Razem																					

Values in the same columns with the same letters differ statistically significantly, small letters at  $P \leq 0.05$ ; capitals at  $P \leq 0.01$   
 Wartości w kolumnach oznaczone tymi samymi literami różnią się istotnie, małymi  $P \leq 0.05$ , dużymi  $P \leq 0.01$

Table 4. Results of basic performance trials for Hucul horses with regards to male lines  
 Tabela 4. Wyniki zasadniczej próby dzelności koni huculskich z uwzględnieniem linii męskich

Male lines Linia męska	2009										2010									
	they have included during first test zaliczyły podczas pierwszej próby					they have included during second test zaliczyły podczas drugiej próby					they have included during first test zaliczyły podczas pierwszej próby					they have included during second test zaliczyły podczas drugiej próby				
	total ogólnem		mares klacz		stallions ogier	total ogólnem		mares klacz		stallions ogier	total ogólnem		mares klacz		stallions ogier	total ogólnem		mares klacz		stallions ogier
n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
Pietrosu	21	112.51 <sup>ab</sup>	8.49	17	112.80	8.92	4	111.25	7.28	31	110.41 <sup>c</sup>	7.94	27	110.85 <sup>a</sup>	7.93	4	107.42	8.48		
Hroby	37	107.29 <sup>a</sup>	9.39	29	106.37	9.59	8	110.60	8.35	29	110.57 <sup>a</sup>	7.73	24	109.92	7.73	5	113.65	7.78		
Goral	33	108.18	9.21	27	107.77	9.72	6	110.01	6.79	31	101.90 <sup>abc</sup>	16.95	27	100.19	17.44	4	113.50	5.69		
Gurgul	26	105.70 <sup>bc</sup>	10.11	25	105.26	10.07	1	116.67	0.0	20	106.67	13.48	20	106.67 <sup>ab</sup>	13.48	-	-	-	-	-
Ousor	11	110.34	8.94	10	110.81	9.28	1	105.67	0.0	15	112.53 <sup>b</sup>	6.74	11	113.71 <sup>b</sup>	6.39	4	109.27	7.52		
Prislop	5	105.45	10.60	3	105.11	14.27	2	105.96	6.42	4	101.27	14.44	2	103.75	23.93	2	98.79	5.36		
Polan	1	114.00	0.0	1	114.00	0.0	-	-	-	8	107.88	11.94	7	107.18	12.71	1	112.83	0.0		
Obey	6	114.12 <sup>c</sup>	7.35	5	113.34	7.94	1	118.00	0.0	2	110.54	13.14	2	110.54	13.14	-	-	-	-	-
Razem	140	108.50	9.41	117	108.10	9.79	23	110.53	7.01	140	107.85	12.03	120	107.49	12.59	20	109.97	7.80		
Together																				

Values in the same columns with the same letters differ statistically significantly at  $P \leq 0.05$   
 Wartości w kolumnach oznaczone tymi samymi literami różnią się istotnie przy  $P \leq 0.05$

Table 5. Results of the assessment of conformation of Hucul horses with regards to female lines (pts)  
 Tabela 5. Wyniki oceny pokroju koni huculskich z uwzględnieniem rodzin żeńskich (pkt)

Female Rodziny żeńskie	they have included during first test zaliczyły podczas pierwszej próby										they have included during first test zaliczyły podczas pierwszej próby									
	total ogółem					mares kłaczę					stallions ogier					total ogółem				
	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$	SD	n	$\bar{X}$
Agatka	3	37.45 <sup>a</sup>	2.80	3	37.45 <sup>f</sup>	2.80	-	-	-	5	37.90	1.11	5	37.90	1.11	-	-	-	-	-
Bajka	8	39.87 <sup>a,b</sup>	1.83	6	40.33 <sup>a,b,c</sup>	1.53	2	38.50	2.59	9	38.68	2.53	9	38.68	2.53	-	-	-	-	-
Czeremcha	5	38.20	2.29	4	39.08	1.34	1	34.67	0.0	8	38.52	2.76	6	37.97	2.85	2	40.16	2.35	10	39.50
Gurgul	7	39.19 <sup>b</sup>	1.30	6	39.39 <sup>d</sup>	1.31	1	38.00	0.0	6	39.25	1.39	4	39.12	1.50	2	39.50	1.65	14	40.83
Góralka	6	38.61	1.93	4	39.58 <sup>e</sup>	1.34	2	36.67	1.41	11	38.87	2.66	10	38.68	2.72	1	40.83	0.0	20	37.98
nowosądecka																				
Laliszka	12	39.30 <sup>gi</sup>	2.48	8	39.13 <sup>f</sup>	2.85	4	39.66	1.82	5	37.57	2.76	5	37.57	2.76	-	-	-	-	-
Nakonczna	5	39.67 <sup>d</sup>	0.97	3	40.11 <sup>g</sup>	1.02	2	39.00	0.47	1	37.33	0.0	-	-	-	1	37.33	0.0	10	36.55
Polanka	40	37.99 <sup>hi</sup>	2.14	36	38.07 <sup>h</sup>	2.16	4	37.25	2.08	21	38.89	2.35	18	39.28 <sup>a</sup>	1.91	3	36.55	3.84	18	38.17
Wolga	9	38.48	2.13	6	39.22	1.89	3	37.00	2.08	17	37.94	1.26	14	37.89 <sup>a</sup>	1.34	3	38.17	1.01	14	38.17
Wrona	8	39.33 <sup>c</sup>	1.68	7	39.47 <sup>b</sup>	1.76	1	38.33	0.0	8	38.48	0.96	7	38.75	0.67	1	36.67	0.0	14	37.66
Wyderka	18	37.78 <sup>fg</sup>	1.81	16	37.83 <sup>aa</sup>	1.88	2	37.33	1.41	26	38.79	1.89	24	38.88	1.83	2	37.66	3.06	22	36.08
Reda	-	-	-	-	-	-	-	-	-	4	36.91	2.33	2	37.75	2.71	2	36.08	2.47	14	37.17
Sroczka	5	38.33	0.97	5	38.33	0.97	-	-	-	11	38.14	1.55	10	38.23	1.60	1	37.17	0.0	14	37.17
Żyrka	4	37.75	1.71	4	37.75 <sup>j</sup>	1.71	-	-	-	3	38.78	0.42	2	38.75	0.59	1	38.83	0.0	14	37.83
Obca	10	37.26 <sup>abdefgA</sup>	1.69	9	37.18 <sup>bcd</sup>	1.77	1	38.00	0.0	5	38.30	1.09	4	38.41	1.23	1	37.83	0.0	14	37.98
Together	140	38.39	2.02	117	38.49	2.04	23	37.85	1.86	140	38.48	1.96	120	38.56	1.91	20	37.98	2.33	140	37.98

continued Table 5 Results of the assessment of conformation of Hucul horses with regards to female lines (pts)  
cd. Tabeli 5. Wyniki oceny pokroju koni huculskich z uwzględnieniem rodzin żeńskich (pkt)

Female lines Rodziny żeńskie	2009										2010										
	zaliczyły podczas drugiej próby they have included during second test					zaliczyły podczas drugiej próby they have included during second test					klacze mares					ogier stallions					
	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	
Agatka	-	-	-	-	-	-	-	-	-	2	41.25	0.35	2	41.25	0.35	-	-	-	2	38.25	1.30
Bajkalka	-	-	-	-	-	-	-	-	-	2	38.25	1.30	-	-	-	-	-	-	-	-	-
Czeremcha	-	-	-	-	-	-	-	-	-	2	40.67	1.41	2	40.67	1.41	-	-	-	-	-	-
Gurgul	4	41.50 <sup>bde</sup> <sub>AB</sub>	1.91	4	41.50 <sup>aadeA</sup>	1.91	-	-	-	2	40.67	1.41	2	40.67	1.41	-	-	-	-	-	-
Góralka	6	39.83 <sup>a</sup>	1.42	4	39.08 <sup>e</sup>	0.92	2	41.33	0.94	2	40.75	0.11	2	40.75	0.11	-	-	-	-	-	-
nowosadecka	6	40.33 <sup>ef</sup>	1.43	6	40.33 <sup>BB</sup>	1.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laliszka	-	-	-	-	-	-	-	-	-	2	39.00	1.17	2	39.00	1.17	-	-	-	-	-	-
Nakoneczna	-	-	-	-	-	-	-	-	-	8	38.10	1.87	6	38.47	1.88	2	37.00	1.88	2	39.55	0.31
Polanka	10	38.13 <sup>eB</sup>	2.12	4	39.08 <sup>d</sup>	1.87	6	37.50	2.20	8	38.10	1.87	6	38.47	1.88	-	-	-	-	-	-
Wolga	-	-	-	-	-	-	-	-	-	2	39.55	0.31	-	-	-	-	-	-	-	-	-
Wrona	-	-	-	-	-	-	-	-	-	2	40.33	1.65	2	40.33	1.65	-	-	-	-	-	-
Wyderka	6	37.61 <sup>abcA</sup>	1.32	6	37.61 <sup>AB</sup>	1.32	-	-	-	6	39.64	2.97	4	39.83	3.79	2	39.25	0.82	-	-	-
Reda	2	38.83	3.53	2	38.83	3.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Srocza	2	39.00	0.47	2	39.00	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Żyrka	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Obca	2	37.83 <sup>d</sup>	0.23	2	37.83	0.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Together	38	39.09	2.05	30	39.26	1.89	8	38.46	2.59	28	39.37	2.01	20	39.71	2.14	8	38.51	1.41	Razem		

Values in the same columns with the same letters differ statistically significantly, small letters at P ≤ 0.05, capitals at P ≤ 0.01  
Wartości w kolumnach oznaczone tymi samymi literami różnią się istotnie, małymi P ≤ 0,05, dużymi P ≤ 0,01

Table 6. Results of basic performance trials for Hucul horses with regards to female lines (pts)  
Tabela 6 Wyniki zasadniczej próby dziechności koni huculskich z uwzględnieniem rodzin żeńskich (pkt)

Female Rodziny żenskie	2009										2010										
	they have included during first test zaliczyły podczas pierwszej próby					they have included during first test zaliczyły podczas pierwszej próby					they have included during first test zaliczyły podczas pierwszej próby					they have included during first test zaliczyły podczas pierwszej próby					
	total ogółem		mares kłacze		n	$\bar{x}$		SD	n	$\bar{x}$		SD	n	$\bar{x}$		SD	n	$\bar{x}$		SD	
Agatka	3	109.45	5.87	3	109.45	5.87	-	5	106.95	11.50	5	106.95	11.50	-	-	-	-	-	-	-	
Bajka	8	110.31	9.82	6	110.12	9.95	2	110.87	13.37	9	102.63 <sup>a</sup>	9.46	9	102.63	9.46	-	-	-	-	-	-
Czeremcha	5	105.25	8.96	4	104.64	10.24	1	107.67	0.0	8	112.74	11.70	6	110.26	12.70	2	120.16	2	120.16	2	2.35
Gurgul	7	110.98	8.43	6	112.97	7.19	1	99.00	0.0	6	114.58 <sup>c</sup>	9.80	4	112.12	11.61	2	119.50	1.65	119.50	1.65	1.65
Góralka	6	104.53	11.89	4	102.27	13.64	2	109.04	9.37	11	110.38	9.10	10	110.13	9.55	1	112.83	0.0	112.83	0.0	0.0
nowosądecka																					
Laliszka	12	113.24 <sup>bd</sup>	6.96	8	113.97 <sup>b</sup>	7.47	4	111.79	6.57	5	109.72	10.93	5	109.71	10.93	-	-	-	-	-	-
Nakonczna	5	111.57	8.48	3	114.61	8.78	2	107.00	8.02	1	97.83	0.0	-	-	-	1	97.83	0.0	97.83	0.0	0.0
Polanka	40	106.35 <sup>cd</sup>	10.38	36	105.29 <sup>ab</sup>	10.36	4	115.87	3.83	21	106.62	13.09	18	107.18	13.80	3	103.30	8.69	103.30	8.69	8.69
Wolga	9	106.68	9.06	6	106.01	10.28	3	108.00	7.77	17	107.92	8.27	14	108.80	8.77	3	103.83	4.11	103.83	4.11	4.11
Wrona	8	110.30	6.28	7	109.58	6.42	1	115.33	0.0	8	108.14	9.82	7	108.34	10.58	1	106.67	0.0	106.67	0.0	0.0
Wyderka	18	105.97 <sup>ab</sup>	10.75	16	105.86	11.32	2	106.83	6.36	26	107.00	13.27	24	106.45	13.65	2	113.66	4.47	113.66	4.47	4.47
Reda	-	-	-	-	-	-	-	-	-	4	111.73	5.79	2	115.75	5.54	2	107.70	2.30	107.70	2.30	2.30
Sroczka	5	111.53	10.17	5	111.53	10.17	-	-	-	11	102.18 <sup>bc</sup>	21.13	10	101.73	22.22	1	106.67	0.0	106.67	0.0	0.0
Żyrka	4	108.56	9.80	4	108.56	9.80	-	-	-	3	117.78 <sup>ab</sup>	0.42	2	118.75	0.59	1	118.83	0.0	118.83	0.0	0.0
Obca	10	113.64 <sup>ac</sup>	5.61	9	113.15	5.73	1	118.00	0.0	5	108.40	7.81	4	107.23	8.50	1	106.60	0.0	106.60	0.0	0.0
Together	140	108.50	9.41	117	108.10	9.79	23	110.53	7.01	140	107.85	12.03	120	107.49	12.59	20	109.97	7.80	109.97	7.80	7.80

continued Table 6 Results of basic performance trials for Hucul horses with regards to female lines (pts)  
cd. Tabeli 6. Wyniki zasadniczej próby dzinności koni huculskich z uwzględnieniem rodzin żeńskich (pkt)

Female Lines Rodziny żeńskie	2009										2010													
	they have included during second test zaliczyły podczas drugiej próby					they have included during second test zaliczyły podczas drugiej próby					they have included during second test zaliczyły podczas drugiej próby					they have included during second test zaliczyły podczas drugiej próby								
	total ogółem		mares kłacze		stallions ogierzy		total ogółem		mares kłacze		stallions ogierzy		total ogółem		mares kłacze		stallions ogierzy		total ogółem		mares kłacze		stallions ogierzy	
	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD	n	$\bar{x}$	SD
Agatka	-	-	-	-	-	-	-	-	-	2	112.00	0.0	2	112.00	0.0	-	-	-	-	-	-	-	-	
Bajkalka	-	-	-	-	-	-	-	-	-	2	92.62	9.13	-	-	-	-	-	-	2	92.62	-	-	9.13	
Czeremcha	-	-	-	-	-	-	-	-	-	2	80.92	54.80	2	80.92	54.80	-	-	-	-	-	-	-	-	
Gurgul	4	100.83	17.95	4	100.83	17.95	-	-	-	2	96.50	29.94	2	96.50	29.94	-	-	-	-	-	-	-	-	
Góralka	6	97.75	20.89	4	100.08	22.34	2	93.08	24.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
nowosadecka	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Laliszka	6	112.50	5.63	6	112.50	5.63	-	-	-	2	99.08	0.0	2	99.08	0.0	-	-	-	-	-	-	-	-	
Nakoneczna	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Polanka	10	96.52	17.95	4	95.96	26.29	6	96.97	11.21	8	95.58	11.07	6	94.69	12.57	2	99.17	0.0	-	-	-	-	-	
Wolga	-	-	-	-	-	-	-	-	-	2	100.05	20.82	-	-	-	-	-	-	2	100.05	20.82	-	-	
Wrona	-	-	-	-	-	-	-	-	-	2	110.00	0.0	2	110.00	0.0	-	-	-	-	-	-	-	-	
Wyderka	6	81.43	42.98	6	81.43	42.98	-	-	-	6	101.48	23.57	4	96.50	26.17	2	116.42	0.0	-	-	-	-	-	
Reda	2	86.20	12.90	2	86.20	12.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Siozka	2	94.00	16.50	2	94.00	16.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Żyrka	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Obca	2	84.08	14.02	2	84.05	14.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Together	38	94.72	22.64	30	94.40	24.78	8	95.86	13.80	28	97.25	20.05	20	96.01	22.65	8	100.16	13.38	-	-	-	-	-	-
Razem	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Values in the same columns with the same letters differ statistically significantly at  $P \leq 0.05$   
Wartości w kolumnach oznaczone tymi samymi literami różnią się istotnie przy  $P \leq 0.05$

The results of Hucul path for stallions and mares in 2009 and 2010 are summarized in figures 1 and 2. The minimum set points needed to pass this task was 60 points for stallions and 50 for mares. The number of individuals that obtained up to 59.9 points during the field trials increased in 2010 in respect of stallions (fig. 1). In the case of mares higher numbers of individuals scoring above 50 points were observed in 2010.

Researches conducted by Stachurska et al. [2006] concerning the degree of difficulty of each barrier during the performance trials showed that Hucul horses committed fewer errors over barriers that used naturally occurring elements of the terrain. Better results were also obtained when in subsequent competitions the animals went through the same path.

#### CONCLUSIONS

1. In analyzing the results of performance trials by Hucul horses, it should be noted that fewer individuals re-entered for the trials in 2010.
2. Similar final scores by horses in subsequent years were observed amongst stallions representing Gurgul lines as well as in mare families of Polanka, Wołga and Wyderka.

Analysis of the results of Hucul path showed that mares scored higher in 2010.

#### REFERENCES

- Budzyńska M., Krupa W., Kamienski J., Sapuła M., Gancarz J., 2003. Charakterystyka eksterierowa i użytkowa koni huculskich uczestniczących w Czempionacie Hodowlanym. Annales UMCS, sec. EE, Zootechnica, 21(1), 327–332.
- Cywińska A., 2000. Czempionat użytkowy konia huculskiego jako próba działalności dla koni tej rasy. Folia Univ. Agric. Stetin. 212, Zootechnica (40), 289–298.
- Holländer M., 1938. Koń huculski. Związek Hodowców Konia Huculskiego, Warszawa.
- IZ, 2010. Program ochrony zasobów genetycznych koni rasy huculskiej. IZ PIB Kraków-Balice, [www.bioroznorodnosc.izoo.krakow.pl/konie](http://www.bioroznorodnosc.izoo.krakow.pl/konie).
- Jackowski J., 2005. Jaki jesteś, jaki byłs koniu huculski? Cz. 2: Charakterystyka rodów i rodzin – rodzinę żeńskie. Przegl. Hod. 12, 18–20.
- Polski Związek Hodowców Koni, 2009. Wyniki Czempionatów Hodowlanych i Użytkowych Koni Huculskich w 2010 roku (Zawalów, Chmielewo, Regietów, Sielec, Hawłowice, Plecka Dąbrowa, Nielepice, Filice, Rudawka Rymanowska, Brenna, Regietów), [www.pzhk.pl/ozhk/wzhk/wyniki](http://www.pzhk.pl/ozhk/wzhk/wyniki).
- Polski Związek Hodowców Koni, 2010. Wyniki Czempionatów Hodowlanych i Użytkowych Koni Huculskich w 2010 roku (Zawalów, Chmielewo, Regietów, Sielec, Hawłowice, Plecka Dąbrowa, Nielepice, Filice, Rudawka Rymanowska, Brenna, Regietów), [www.pzhk.pl/ozhk/wzhk/wyniki](http://www.pzhk.pl/ozhk/wzhk/wyniki).
- Program hodowli koni rasy huculskiej, 2007. PZHk, Warszawa.
- Purzyc H., 2007. A general characteristic of Hucul horses. Acta Sci. Pol., Med. Vet. 6(4), 25–31.
- Stachurska A., Pięta M., Jackowski M., Tarnawa-Wójciga A., 2006. Difficulty of obstacles at Hucul path – the events for Hucul Horses. Electr. J. Pol. Agric. Univ., Animal Husbandry, 9, 4, <http://www.ejpau.media.pl/volume9/issue4/art-09.html>.
- Tomczyk-Wrona I., 2006. Historia powstania linii genealogicznych w hodowli koni huculskich. Wiad. Zoot., 44, 2, 76–80.

**Streszczenie.** Celem pracy była ocena stopnia przygotowania koni huculskich do prób dzielności w 2009 i 2010 r. Próby dzielności dla tej rasy należy zaliczyć do powszechnych i dobrze zorganizowanych. W skład zasadniczej polowej próby dzielności wchodzą ocena pokroju i ścieżka huculska. Warunkiem zaliczenia jest uzyskanie łącznej ilości punktów minimum 85 dla klaczy i 95 dla ogierów. W 2009 r. zgłoszono do prób dzielności 222, a w 2010 r. – 191 sztuk. Wykazano, iż w 2010 r. mniej licznie reprezentowane były rodziny klaczy Źyrka, Gurgul, Laliszka i Polanka oraz linia męska Pietrosu. W 2010 r. ogiery były gorzej przygotowane do prób (w 2010 r. nie zaliczyło 20,0%, w 2009 r. 13,2%), a klaczki lepiej (odpowiednio 10,2% i 20,1%). W ocenie ekstерьeru koni wykazano w 2009 r. większe zróżnicowanie, co potwierdzono statystycznie. Zbliżoną punktację końcową w kolejnych latach stwierdzono u koni reprezentujących linię ogiera Gurgul i rodziny klaczy Polanka, Wołga i Wyderka. Analiza wyników ścieżki huculskiej wykazała wyższą punktację klaczy w 2010 r.

**Slowa kluczowe:** konie huculskie, próby dzielności, ścieżka huculska