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Conference paper

BREEDING COLD-BLOODED HORSES IN BOHEMIA, MORAVIA AND SILESIA

J. Volenec, J. Petrkýl, F. Bauš, J. Cerman

Summary

At present (as on 1.1. 1995), there are some 19 thousand horses in the Czech Republic, of which 6 thousand are young horses up to the age of 3 and 13 thousand are adults.

Breeding of horses in Bohemia, Moravia and Silesia has a tradition of about 100 years.

Populations of cold-blooded horses developed on the basis of blood from Czech, but expecially of Moravian cold-blooded stallions bred on the basis of Belgian blood, Noric stallions bred on the basis of blood from Austrian and especially Bavarian breeds. Partially, blood of stallions of the Silesian Noric nature and blood of Belgian-Noric stallions was used in the population of cold-blooded mares.

It was in the interest of professional hippologists as well as individual breeders to maintain the breed of cold-blooded population in pure blood bonds of Belgian and Noric blood or blood of the Silesian Noric strain. Through this development thus regions and locations of breeding cold - blooded horses on the basis of Belgian and Noric blood and the blood of Silesian Noric strain were maintained.

The most important region of breeding the Bohemian-and-Moravian type of Belgian horse in present times is southern Moravia. Noric horses and Silesian Norics are bred in Northern Moravia and in Silesia. There are smaller localities where purebred Belgian and Noric horses are kept in eastern Bohemia and the central Bohemian region. Cold-blooded horses with mixed Belgian and Noric blood base can be found in Bohemian regions mainly.

The breeding of cold-blooded horses on the basis of Belgian blood was maintained by stallions with Belgian blood base coming from original Belgian imports of stallions at the end of the 19th and the beginning of the 20th centuries up to about the 40's. No more original Belgian stallions

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J. Volenec, National Stud at Kladruby, 533 14 Kladruby; J. Petrkýl, Klokočov 84, 747 47 Vitkov; F. Bauš, Slovanka 438, Stochov, the Rakovnik district; J. Cerman, Jenikov 60, 507 72 Miletin, the Czech Republic.

were imported and the pure breeding of Bohemian-and-Moravian Belgian horses was isolated in its development, especially within Moravia. The present population of Bohemian-and-Moravian Belgian horses was influenced by the progeny of the following imported original Belgian stallions: 51 Bayard de Herédia - Belgian, bay, born 1920; 9 Marquis de Vraimont - Belg., sorrel born 1920; 426 Aglaé - Belg., sorrel, born 1920; 428 Branibor - Belg., sorrel, born 1922; 113 Successor de Beneffe - Belg., sorrel, born 1928; 50 Corale - Belg., sorrel, born 1909; and other horses of less significant lines.

The breeding of cold-blooded horses on the basis of Nordic blood was maintained through sons, grandsons and great grandsons of Noric stallions imported to Bohemia, Moravia and Silesia from Austria and Bavaria.

The present population of Noric horses kept in the Czech Republic was influenced significantly by the progeny of the following pure blooded Noric stallions: 2934 Hubert Nero IX - Nor. Aust., bay, 1964; 2693 Schrempf Diamant VIII - Nor. Aust., bay, 1953; 1542 Nero Diamant VI - Nor. Aust., bay, 1941; 1747 Neuwirth Diamant IX - Nor. Aust., piebald, 1952; 2500 Ritz Vulkan VII - Nor. Aust., sorrel, 1943; 2694 Fusch Vulkan XI - Nor. Aust., black, 1956; 1350 Streiter Vulkan - Nor. Aust., bay, 1939; and other less significant lines.

Stallions of the Silesian Noric and imported pure blooded Noric strain were used in the population of the Silesian Noric horses.

The present populatio of the cold-blooded horses of the Silesian Noric strain bred in Silesia was greatly influenced by the progeny of the following stallions, many of which became the founders of significant lines of the Silesian Noric: 41 Norbert - Nor. Aust., bay, 1907; 419 Bravo - Nor. Siles., sorrel, 1914; 2526 Höllriegel - Nor. Aust., black, 1939; 2262 Gothenscherz - Nor. Bav., bay, 1940; 12 Pfeilring - Nor. Bav., sorrel, 1939; 342 Dietrich - Nor. Aust., sorrel, 1901.

1. Brief characteristics of the development of cold-blooded horses in the Czech Republic

At present (as on 1.1. 1995), there are some 19 thousand horses in the Czech Republic, of which 6 thousand are young horses up to the age of 3 and 13 thousand are adults.

Breeding of horses in Bohemia, Moravia and Silesia has a tradition of about 100 years.

Populations of cold-blooded horses developed on the basis of blood from Czech, but expecially of Moravian cold-blooded stallions bred on the basis of Belgian blood, Noric stallions bred on the basis of blood from Austrian and especially Bavarian breeds. Partially, blood of stallions of the Silesian Noric nature and blood of Belgian-Noric stallions was used in the population of cold-blooded mares.

It was in the interest of professional hippologists as well as individual breeders to maintain the breed of cold-blooded population in pure blood bonds of Belgian and Noric blood and the or blood of the Silessian Noric strain. Through this development thus regions and locations of breeding cold-blooded horses on the basis of Belgian and Noric blood and the blood of Silesian Noric strain were maintained.

The most important region of breeding the Bohemian-and-Moravian type of Belgian horse in present times is southern Moravia. Noric horses and Silesian Norics are bred in Northern Moravia and in Silesia. There are smaller localities where purebred Belgian and Noric horses are kept in eastern Bohemia and the central Bohemian region. Cold-blooded horses with mixed Belgian and Noric blood base can be found in Bohemian regions mainly.

The breeding of cold-blooded horses on the basis of Belgian blood was maintained by stallions with Belgian blood base coming from original Belgian imports of stallions at the end of the 19th and the beginning of the 20th centuries up to about the 40's. No more original Belgian stallions were imported and the pure breeding of Bohemian-and-Moravian Belgian horses was isolated in its development, especially within Moravia. The present population of Bohemian-and-Moravian Belgian horses was influenced by the progeny of the following imported original Belgian stallions: 51 Bayard de Herédia - Belgian, bay, born 1920; 9 Marquis de Vraimont - Belg., sorrel born 1920; 426 Aglaé - Belg., sorrel, born 1920; 428 Branibor - Belg., sorrel, born 1922; 113 Successor de Beneffe - Belg., sorrel, born 1928; 50 Corale - Belg., sorrel, born 1909; and other horses of less significant lines.

The breeding of cold-blooded horses on the basis of Nordic blood was maintained through sons, grandsons and great grandsons of Noric stallions imported to Bohemia, Moravia and Silesia from Austria and Bavaria.

The present population of Noric horses kept in the Czech Republic was influenced significantly by the progeny of the following pure blooded Noric stallions: 2934 Hubert Nero IX - Nor. Aust., bay, 1964; 2693 Schrempf Diamant VIII - Nor. Aust., bay, 1953; 1542 Nero Diamant VI - Nor. Aust., bay, 1941; 1747 Neuwirth Diamant IX - Nor. Aust., piebald, 1952; 2500 Ritz Vulkan VII - Nor. Aust., sorrel, 1943; 2694 Fusch Vulkan XI - Nor. Aust., black, 1956; 1350 Streiter Vulkan - Nor. Aust., bay, 1939; and other less significant lines.

Stallions of the Silesian Noric and imported pure blooded Noric strain were used in the population of the Silesian Noric horses.

The present population of the cold-blooded horses of the Silesian Noric strain bred in Silesia was greatly influenced by the progeny of the following stallions, many of which became the founders of significant lines of the Silesian Noric: 41 Norbert - Nor. Aust., bay, 1907; 419 Bravo - Nor. Siles., sorrel, 1914; 2526 Höllriegel - Nor. Aust., black, 1939; 2262 Gothenscherz - Nor. Bav., bay, 1940; 12 Pfeilring - Nor. Bav., sorrel, 1939; 342 Dietrich - Nor. Aust., Sorrel, 1901.

2. Division of the present population of cold-blooded horses in the Czech Republic as to 1994

The population of cold-blooded horses in the Czech republic (see Table 1) is now divided into the population of Bohemian-and-Moravian Belgian horses (ČMB) with pure blood belgian base, the population of Noric horses (N) with Noric blood base and the population of the Silesian Noric strain (NS).

Table 1. - BASIC DIVISION OF THE PRESENT POPULATION OF COLD-BLOODED MARES AND STALLIONS IN THE CZECH REPUBIC AS PER BREED AFFILIATION AND THE DIFFERENT SECTONS OF STUD BOOKS

Breed affiliation	Number (n) of breed stalions	Number (n) of breed mares in HPK	Number (n) of breed mares in PK	Number (n) of breed mares in HPK+PK	Number (n) of breed mares in 1st PPK	Number (n) of breed mares in 2nd PPK	Number (n) of breed mares in 1st+2nd PPK
Bohemian-Moravian Belgian (ČMB)	40	237	144	381	119	71	190
Noric (N)	30	287	130	417	75	180	255
Silesian Noric (NS)	12	65	49	114	42	148	190
Bohemian Cold-blooded (ČCH)	41	606	211	817	347	627	974

Explanation to symboles (abbreviations):
ČMB - breed of Bohemian-and-Moravian belgian horse
N - Noric breed
NS - Noric Silesian strain
ČCH - commercial type of Bohemian cold-blooded horse
HPK Chief Stud Book
Pk - Stud Book
1st PPK - First auxiliary stud book
2nd PPK - Second auxiliary stud book

The majority of the population are commercial types of half-breds of the Bohemian cold-blooded horse. They are mainly Belgian Noric horses with different portions of Belgian and Noric blood or blood of the Silesian Noric in their pedigree.

The breeding population of the Bohemian-and-Moravian Belgian horses amounted to about 620 horses as in 1994, i.e. 50 sallions and 570 mares, registered in all volumes of the Stud Book (PK). The nucleus of the population amounts to 380 mares, registered in the Chief Stud Book (HPK) and the Stud Book (PK). These horses are bred by private breeders, namely in southern Moravia.

Pure blooded population of Noric horses amounts to about 700 horses, i.e. 35 stallions and 670 mares registered in all the sections of the PK. The nucleus of the population are about 400 mares, registered both in HPK and PK. This type of horse is mostly found in northern Moravia (some 300 mares 200 of which are registered in the highest sections of the Stud Book). The best individuals, horses of the Noric breed, can be found in SZP Lány, LZ Ostretín and the Jeníkov stud.

The population of the Silesian Noric amounts to some 316 horses, i.e. 12 stallions and 304 mares registered in the Stud Book. The nucleus amounts to about 120 mares registered in HPK and PK. Their breeding is mainly concentrated to the area of northern Moravia and the nucleus of the population is mainly located at the stud Klokočov near Opava.

Dividing the population of cold-blooded horses into the different breeds (ČMB, N) and the silesian Noric (NS) strain gave birth to a population of inter-breeds, that is, cold-blooded Belgian-Noric horses with varying share of Belgian - Noric blood or blood of the Silesian Noric in their pedigree.

The commercial type of crossbred horses, the so-called Bohemian cold-blooded horse (ČCH) amounts to some 1800 mares and 10 stallions. These half-bred horses are mainly kept in the Bohemian region.

The frequency and distributionof horse breeding farms corresponds with the many years of traditional breeding (see Table 2).

Table 2. - ABSOLUTE AND REALTIVE FREQUENCY OF MARES OF THE BOHEMIAN-AND-MORAVIAN BELGIAN HORSE (ČMB) AND NORIC HORSE (N) OF THE SILESIAN NORIC STRAIN (NS) AND COMMERCIAL TYPE OF BOHEMIAN COLD-BLOODED HORSE (ČCH), REGISTERED IN THE HPK AND PK, IN DIFFERENT REGIONS OF THE CZECH REPUBLIC
ABSOLUTE AND RELATIVE FREQUENCY OF MARES IS DERIVED FROM THE NUMBER OF MATED MARES IN 1993 AS PER THE DOMICILE OF THE OWNERS AND THE DIFFERENT REGIONS

Region	ČMB mares		N mares		MS mares		ČCH mares	
	n	%	n	%	n	%	n	%
Cent. B	18	10.5	12	6.3	1	1.6	62	16.6
WE	3	1.7	3	1.6	0		80	21.4
SB	9	5.3	8	4.2	0		32	8.6
NB	3	1.7	2	1.1	1	1.6	15	4.1
EB	21	12.2	11	5.8	1	1.6	65	17.4
SM	106	61.6	36	19.1	11	17.5	73	19.6
NM	12	7.0	117	61.9	49	77.7	46	12.3
Total	172	100.0	189	100.0	63	100.0	373	100.0

ABSOLUTE AND RELATIVE FREQUENCY OF MARES IS DERIVED FROM THE NUMBER OF OWNERS OF MARES IN 1994 AS PER THEIR DOMICILE AND THE DIFFERENT REGIONS

Region	ČMB mares		N mares		MS mares		ČCH mares	
	n	%	n	%	n	%	n	%
Cent.B	31	8.1	20	4.8	1	0.9	127	15.5
WE	14	3.7	20	4.8	1	0.9	162	19.8
SB	18	4.7	38	9.1	1	0.9	90	11.0
WB	22	5.8	5	1.2	1	0.9	34	4.2
EB	74	19.4	26	6.2	5	4.4	142	17.4
SM	189	49.6	45	10.8	13	11.4	121	14.8
NM	29	7.6	260	62.4	91	79.8	133	16.3
Unkn.	4	1.0	3	0.7	1	0.9	8	1.0
CELKEM	381	100.0	417	100.0	114	100.0	817	100.0

Unkn. - Unknown owner

The table shows the absolute and relative frequency of mares of the breeds of Bohemian-and-Moravian Belgian horse (ČMB), Noric horse (N), Silesian Noric strain (NS) and the commercial type of Bohemian cold-blooded horse (ČCH), registered in HPK and PK in the different regions of the Czech Republic in 1993 and 1994.

Relatively highest concentration of mares of the ČMB breed can be traditionally found in the Southern Moravian region (19.1%). The highest number of mares of the Silesian Noric strain can quite logically be found in the area of their origin, that is, in the Northern Moravian region (77.7%) and then also in the Southern Moravian region (17.5%). Mares of the commercial types of the Bohemian cold-blooded horse are relatively evenly spread over all the regions of the Czech Republic, the highest proportion being in the West Bohemian region (21.4%).

3. Age structure of the present populations of cold-blooded mares as per breeds, strains and commercial types registered in HPK and PK

Theoretically speaking, the annual turnover inthe herd or population of dams should be 10%. In this level of turnove and selection, three- to four-year old, and later five- to ten-year old mares are represented in populatons according to breeds by about 10%.

Following their 10th or 11th year of age, the relative proportion of mares in the population gradually decreases due to higher selection for health and reproductive reasons. Selections is made at random and irregularly in mares up to the age of 10 years. All the above aspects are reflected in the age structure of present populations of cold-blooded mares. In all the populations of cold-blooded mares under observation, relative age of mares from 4 to about 13 or

14 years is predominant. It may be said that the age structure of all the populations is favourable.

About 55% breeders have one mare, some 30% of breeders keep 2 to 5 mares, some 8% of breeders keep 6 to 10 mares and about 7% of breeders keep more than 10 mares from the total number of dams within the different populations. All the mares are in the property of private owners. Breeding stallions are mostly the property of two national studs (Pisek, Tlumačov).

4. Coefficient of inbreeding (F%) and analysis of body conformation traits and gene composition (proportion of genes) within the present population of cold-blooded mares as per breeds and sections of the Stud Book

Results of the analyses are summarized in Talbe 3.

The numbers of mares observed from both breeds, the strain and the commercial type registered in HPK and PK, are sufficient to characterize the framework standard of basic body conformation traits, i.e. KVP (band withers height), OHR. (circumference of chest), OH. (curcumference of shin) and body weight. There were no significant differences in KVP between the averages found between the breeds. There is neither any significant difference between the two breeds, the strain and the commercial type in the circumference of shin or that of the chest.

In most cases, values of F_x ranging between 0.05% and 10.35% were found in ČMB mares. The product of outbreeding is 30 mares registered in the HPK and PK.

In Noric mares registered in HPK and PK, values of F_x ranged in most cases between 0.05 and 7.81%. Eighty mares registered in HPK and PK are not the product of inbreeding.

In mares of the Silesian Noric strain (NS) registered in HPK and PK values of F_x ranged between 0.1 and 9.5%.

In mares of the commercial type of the Bohemian cold-blooded horse (ČCH) registered in HPK and PK values of F_x ranged between 0.05 and 7.27%. The 330 mares registered in HPK and PK are outbred products.

It is evident form the above values of F_x that in most cases distant inbreeding takes place. In cases where F_x reaches values of 12.5% and more, inbreeding is moderate.

It is evident from the values found in standard deviations (s_{FX}) of the coefficient of inbreeding takes place. In cases where F_x reaches values of 12.5% and more, inbreeding is moderate.

It is evident from the values found in standard deviations (s_{FX}) of the coefficient of inbreeding in the different populations under observation (see Table 3) that the most homogenous groups of mares, i.e. groups of mares with

relatively lowest variability F_x are represented in NS mares registered in HPK and ČMB mares registered in PK.

Proportions of genes in ČMB, N mares, NS strain and commercial type ČCH were analyzed from four generations of progenies.

ČMB mares registered in HPK and PK are of very homogenous gene base. The proportions of ČMB genes reach, on an average, a level of 77.58% in mares registered in PK and 83.2% in mares registered in HPK. The relative proportions of NS, N and ČCH genes are negligible.

N mares registered in HPK and PK have a significantly predominant proportion of genes of the NS strain. The proportions of ČMB and ČCH genes are negligible.

NS mares registered in HPK and PK have the most homogenous gene base. The proportion of ČMB, N and ČCH genes are scarce.

In ČCH mares registered in HPK, the differences of ČMB, N and NS genes are in relative balance, only ČMB genes are slightly predominant. ČCH mares registered in PK have significantly a higher proporton of ČMB genes (41%) as compared to NS genes (20.4%). The proportions of N and ČCH genes are balanced (12 to 14%).

5. The present system of performance tests in cold-blooded horses in the Czech Republic

The system of performance tests is specified in the standard ČSN 46 6310 Breeding horses.

Following a station test of 80 days, all positively selected cold-blooded stallions must undergo a one-day performance test before they can be incorporated into breeding. No performance tests are required for mares.

Table 3. - COEFFICIENTS OF INBREEDING (F_x%) AND ANALYSIS OF THE BASIC BODY CONFORMATION TRAITS AND GENE COMPOSITION (PROPORTIONS OF GENES) IN THE PRESENT POPULATION OF COLD-BLOODED MARES ACCORDING TO THEIR AFILIATION TO THE BREED AND SECTIONS OF THE STUD BOOK

Race		n	x KVP (cm)	x OHR. (cm)
Bohemian-and-Moravian	HPK	237	171.04	206.84
Belgian horse	PK	144	170.79	206.78
Noric bread	HPK	287	169.95	202.81
	PK	130	169.49	203.09
Noric Silesian kind	HPK	65	169.72	199.55
	PK	49	170.22	202.24
Bohemian cold - blooded horse	HPK	606	170.87	205.43
	PK	211	170.59	205.84

Race		x Ohol. (cm)	x Hmot. (kg)	x F_x%	S_{Fx}
Bohemian-and-Moravian	HPK	23.22	670.00	2.3679	0.0762
Belgian horse	PK	23.23		1.4764	0.0269
Noric bread	HPK	23.04	640.97	1.6052	0.0724
	PK	22.82	652.31	1.1572	0.0235
Noric Silesian kind	HPK	22.86	648.70	1.6812	0.0228
	PK	23.00	666.11	1.6980	0.0618
Bohemian cold-blooded	HPK	22.96	653.57	0.7507	0.0382
horse	PK	2.83	655.00	0.6695	0.0183

Race		according to genes (blood) in%				
		NS	N	ČMB	ČCH	Others
Bohemian-and-Moravian	HPK	0.53	1.87	83.20	11.52	2.88
Belgian horse	PK	0.86	2.13	77.58	10.67	8.76
Noric Silesian kind	HPK	64.44	29.38	0.97	2.41	2.81
	PK	49.50	36.98	2.53	4.16	6.83
Noric silesian kind	HPK	95.35	1.05	0.33	0.64	2.63
	PK	88.19	3.07	0.97	0.72	7.05
Bohemian cold-blooded	HPK	24.81	22.34	37.33	12.15	3.37
horse	PK	20.39	14.13	41.00	12.06	12.42

Explanation of symbols (abbreviations).
ČMB - Proportions of genes in the Bohemian-and-Moravian Belgian breed
N - proportion of genes in the Noric breed
NS - proportion of genes in the Silesian Noric strain
ČCH - proporiton of genes in the commercial type of Bohemian cold-blooded horses
Others - proportion of genes in the other breeds
HPK - Chief stud Book
PK - Stud Book
F_x average F_x (%)
S_{Fx} - standard deviation F_x
KVP - band withers height
Obr. - chest circumference
O.hol. shin circumference
Hmot. - body weight

6. Regulations of Stud Books

In the Czech Republic, Stud Books (PK) have been established for the Noric breed, the Bohemian-and-Moravian Belgian breed and the Silesian Noric strain of horse. The holder of the Stud Book is the Association of Horse Breeder's Unions (ASCHK). The Stud Book aims at improving the genetic

level of the population in the different breeds in order to increase the efficiency, performance and ability to compete. The unions of breeders which are holders of PK set up the breeding target and standard of breeds, control their development, register breeds and breeding animals, register and certify their origin and the breedign value of breeding animals and set up parameters for their selection. In the Czech Republic, one Stufd Book (PK) is established for each breed, that means, the PK is unified and open, i.e. accessible to all breeders. Internally the PK can be divided into four basic files, the register of breeders, stud books of stallioons and mares, breed register and mating register.

The PK regulation determines a breeding programme which includes breeding methods, evaluation of body conformation, performance tests, estimation of values and selection plans.

Breeding target and breed standard of the Noric horse

The breeding target is a cold-blooded horse bred on a given gene base, maturing at the age of 4 years, of medium up to large-size rectangular frame, with well built muscles. The head is heavier, robust, with distinctive eyes, medium long neck, set at medium height with moderately distincitive withers, long, well-angled scapula, spacious shest, protracted, oval-shaped, back of medium length and firm, posterior of medium width and length, oval-shaped and moderately split. The fundament is strong, bony, dry, with not very distinctive shags, strong, flexible, well-shaped hooves. Joints not very distinctive with an indication of lymphaticity, pastern short and firm.

It is an industrious horse which can be controlled well, with reasonable temperametn, good character, with good feeding properties, agile, with medium spaced gait. The colour is sorrel or chestnut.

Breeding target and breed standard of the Bohemian-and-Moravian Belgian horse

The breeding target is a cold-blooded horse maturing a the age of 3 years, of medium up to large-size square frame, with well built muscles.

The head is smaller, noble, with lively eyes, shorter neck, set highly, well-shaped scapula, deep and spacious chest, shorter central trunk with looser top line, short firm back, massive long and broad sloping split posterior. The fundament is dry, bony, joints less distinctive with an indication of lymphaticity, pastern shorter and flexible. It is chiefly a sorrel with white mane and tail and typical shags.

Breeding target and breed standard of the Silesian Noric strain of horse

The breeding target is a cold-blooded horse, bred on a given gene bas, maturing at the age of 5 to 6 years, of medium up to large-size rectangular frame, with well built muscles.

The head is big dry, noble, with oval-shaped eye-socket, neck set highly, medium up to long, dome-shaped with medium distinctive withers, long, well-angled scapula enabling abundant and spacious gait, chest of medium depth, broad oval-shaped, of medium length, firm back, well bound, massive posteriour of medium width and length, oval-shaped, moderately split and sloping. The fundament is dry, bony, joints and sinews distinctive, dry, hooves firm and flexible, well-shaped, pastern short up to medium long, firm and flexible.

It is an industrious horse which can be controlled well, with reasonable temperament, with distincitve gait, mostly a sorrel.

Breeding targed and breed standard of the Bohemian cold-blooded horse

The breeding target is a commercial type of cold-blooded horse bred on a blood base of Noric, Silesian Noric and Bohemian-and-Moravian Belgian horse with varying proportion of Belgian-Noric blood in its pedigree.

The type, body frame and exterior marks correspond with the proportion of mixed blood in pedigrees of these horses.

Standard of basic body conformation traits at the age of 2.5.

The standard of the basic body conformation traits is identical for both cold-blooded breeds (ČMB, N, NS strain) and the commercial type (ČCH).

	Stallions (cm)	Mares (mc)
KVP	166-170	165-168
KVH	156-159	152-157
Chest circumph.	187-194	192-198
Shin circumph.	23-23.8	22-22.7

To meat the breeding targets and standards in both breeds (ČMB, N) and NS strain, pure breeding is used and the appropriate union of breeders (PK Council) decides about the possibility of individual use of stallions and mares of other breeds in the given population.

Marking of horses

Marking is specified by the ČSN 46 6006-5 standard - Marking of Horses.

The code marking of breed for Noric horses is 66, Bohemian-and-Moravian Belgian horses 56, the Silesian Noric strain 67 and the commercial type of the Bohemian cold-blooded horse 77. This code is the first double digit in the life number of a horse entered in the Stud Book. The life number has nine digits and includes an identification code of the PK, number of the district, ordinal number of the foal in the district book of foals and the last double digit denotes the year of birth.

Order of branding - Noric horses at the time of register into the PK are branded on the left side of the neck by the letter N, while the Bohemian-and-Moravian Belgian horses letter B, Silesian Noric NS and Bohemian cold-blooded horses CH.

It is evident from the herewithin described developement and characteristics of the different breeds (ČMB; N) and NS strain, as well as the analysis especially of the proportion of genes in the different populations of ČMB; N and NS strain mares that they are genetically quite different populations, and their further breeding should pure breeding. The population of ČMB and NS strain is mares and stallions constitutes importat gene resources at the present time.

UZGOJ HLADNOKRVNIH KONJA U ČEŠKOJ, MORAVSKOJ I ŠLEZIJI

Sažetak

Danas (1.1.1995.) postoji nekih 19 tisuća konja u Češkoj Republici, od kojih su 6 tisuća mladi konji do 3 god. starosti, a 13 tisuća su odrasli konji.

Uzgoj konja u Češkoj, Moravskoj i Šleziji ima tradiciju od oko 100 godina.

Populacije hladnokrvnih konja razvile su se na osnovi krvi čeških, te naročito moravskih hladnokrvnoh pastuha uzgojenih na osnovi belgijske krvi, nordijskih pastuha uzgojenih na osnovi krvi austrijskih, te naročito bavarskih pasmina. Djelomice je upotrebljena krv pastuha šlesko-nordijske prirode i krv belgijsko-nordijskih pastuha u populaciji hladnokrvnih kobila.

U interesu je profesionalnih hipologa kao i pojedinačnih uzgajatelja održati pasminu hladnokrvne populacije u vezama čiste krvi belgijske i nordijske krvi ili krvi šlesko-nordijskog soja.

Kroz ovaj razvoj održana su područja i lokaliteti uzgoja hladnokrvnih konja na osnovi belgijske i nordijske krvi i krvi šlesko-nordijskog soja.

Najvažnija područja uzgoja češkog i moravskog belgijskog konja danas je južna Moravska. Nordijski konji i šleski nordijci uzgajaju se u sjevernoj Moravskoj i Šleziji. Postoje manji lokaliteti gdje se drže čistokrvni belgijski i nordijski konji u istočnoj Češkoj i području srednje Češke. Hladnokrvni konji mješane belgijske i nordijske krvne osnove mogu se naći uglavnom u češkim područjima.

Uzgoj hladnokrvnog konja na osnovi belgijske krvi održavao se pastusima belgijske krvne osnove od originalnih uvezenih belgijskih pastuha krajem 19. stoljeća i početkom 20. stoljeća sve do četrdesetih godina. Više se nisu uvozili originalni belgijski pastusi i čisti uzgoj češko-moravskih konja izoliran je u svom razvoju, osobito u Moravskoj. Današnja populacija češko-moravskih belgijskih konja bila je pod utjecajem potomaka uvezenih originalnih belgijskih pastuha.

Uzgoj hladnokrvnih konja na osnovi nordijske krvi održao se kroz sinove, unuke i praunuke nordijskih pastuha uvezenih u Češku, Moravsku i Šleziju iz Austrije i Bavarske.

Današnja populacija nordijskih konja u Češkoj Republici bila je pod utjecajem potomaka čistokrvnih nordijskih pastuha.

Šlesko-nordijski pastusi uvezenog čistokrvnog nordijskog soja upotrebljeni su u populaciji šlesko-nordijskih konja.

Današnja populacija čistokrvnih konja šlesko-nordijskog soja uzgojena u Šleziji pod velikim je utjecajem potomstva pastuha od kojih su mnogi osnivači važnih linija šlesko-nordijskog konja.

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