

THE EFFECT OF INCREASING NUMBERS OF HORSES OF UNDEFINED BREED ON HORSE BREEDING IN THE CZECH REPUBLIC

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Abstract

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The objective of the present study was to analyse the numbers and division of horses of undefined breed. At the present time this group is the most numerous in the entire population of horses. Horses of undefined breed do not come under any breeder union which would provide reports about these horses; these horses are only registered and breeders are informed only about their numbers. Our study is the first to deal with the problem of increasing numbers of horses of undefined breed. The database contained 22 211 horses not entered registered in any of the stud books. In the database we filed approved horses born between 1972 and 1 September 2012 and horses registered from 1987. The data were processed in the Excel programme and results were evaluated in graphs. The most frequent horse in this group was the warm-blood type (n = 9 303), pony type (n = 6 285), cold-blooded type (n = 2 663) and unlisted horses (n = 2 278). Since 2001 the number of registered horses of undefined breed has increased. The most numerous dams of horses of undefined breed is the Czech warm-blood with 1 912 offspring; dams of the English Thoroughbred with 552 offspring and mares of the utility Huzule horse with 492 offspring. In the group of registered horses of undefined breed the Czech warm-blood appears in the pedigree of 507 colts and the American Paint Horse in the pedigree of sires of 506 colts. Why the numbers of horses of undefined breed are increasing is the boom of leisure horsemanship and unqualified horse breeding.

Keywords: horse, breed, horses of undefined breed, registration, offspring

INTRODUCTION

In the post-war period we saw an intensive advancement in agriculture and in motor transport. In horse breeding this brought about great changes, particularly in the sense that horses exploited for work now found their place in sports and in leisure time activities. This radical change called for a change in the utility type (Dušek, 1999). In the past 150 years the system of breeding changed from experimental methods to a scientific approach. In relatively short time intervals the demands for breeds and production changed according to the various social demands. State-regulated horse breeding with a tradition going back to the times of Maria Theresa was terminated (Misař, 2011; Sixta,

2006). Until 1989 horse breeding was managed by the breeding organisation State Breeding Enterprise in Prague. Regional breeding was administered at the stud farms in Písek and Tlumačov. In the early 1990's, after the disintegration of the breeding organisation and establishment of breeding unions and their joining together, the Association of Unions of Horse Breeders (ASCHK) was established taking over professional workers from the stud farms. The individual unions were based on the breeds and regions (Dušek, 1999; Machek, 2008). After 1989 the number of horse in the Czech Republic began to decline and their numbers did not begin to increase until after 1996; since then the numbers of horses in the Czech Republic have been increasing (Machek,

2006). The increasing popularity of horses and with it the increase in their numbers is still continuing. Recently the interest in horses as leisure-time activity has increased and with it the numbers of horses have increased rapidly, especially of horses of undefined breeds, particularly thanks to unqualified breeders. Today the Czech Republic has more than 80.000 registered horses. Most of these horses are in the group of horses of undefined breeds, i.e. 28% of the total number of horses. This group is only filed in the Central Records Registry of Horses but does not fall under any breeding union. Association on a regular basis the breeding unions inform the breeders and horse fans about the development in breeding and the breed of the horse. No breeding union association deals with the most numerous group and does not inform the breeding public. The objective of our study was to elaborate a survey of horses of undefined breed on horse.

Breeding is defined as intentional reproduction of these animals based on concrete breeding plans (Misař and Jiskrová, 2008; Dušek, 1999).

Breed is the identification of a group of animals of the same species. The animals have the same phylogenetic pedigree, they resemble each other and with their identical morphological and physiological features they markedly differ from any other group of the same species. Provided that the animals live in the same conditions these properties are carried on to the offspring (Kapitzke, 2008; Misař and Jiskrová, 2008). The breeds of horses are the result of man-controlled breeding.

Systematic horse breeding is an integral part of further development of these odd-toed ungulates. The official certificate of the breed is the stud book. The stud book contains the Stud Book Rules which contains the breeding goal, sets the conditions for entering the horse in the stud book and solves the problem of selection. Stud books are divided into several criteria: closed stud books, stud books with a very strict order, stud books with strict order and stud books with open order (Misař and Jiskrová, 2008; Machek, 2010).

MATERIAL AND METHODS

Data were taken over from the Central Records of Horses in Slatiňany. They contained only data of horses which are not entered in any stud book and which fall under the group of horses of undefined breed. As of 1 September 2012 registered were 22 211 horses. The database included horses born from 1972 to 1 September 2012 and horses registered since 1987. Groundwork data contained the internal number, identification number, birth, sex, type, number of sire, name of sire, breed of sire, number of dam, name of dam, breed of dam, dam in the stud book, import of dam, date of horse registration, number of ID card, code of horse owner, comments and/or notes.

Data were processed in Excel and the data were entered only for the purpose of filing and not for

further processing. Separately evaluated were dams and sires of the offspring of undefined breed; representation of horse of undefined breed and registration and birth of the horses.

RESULTS AND DISCUSSION

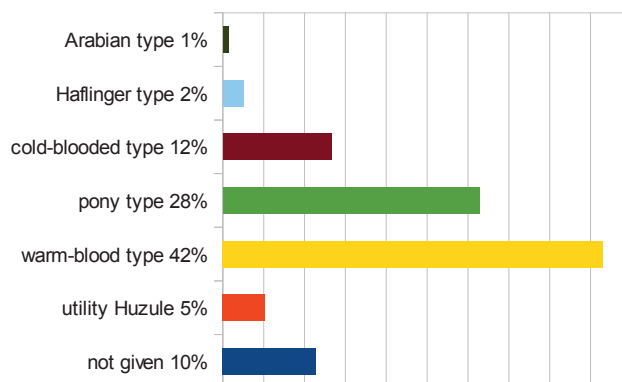
Czech Republic is a country where horse breeding has a long tradition. Today we might argue whether or not has the breeding tradition and approaches to breeding been severed. We can give a thought to where horse breeding is heading when the plans of many unqualified breeding are unsystematic. The import of popular breeds from abroad with defects in the body conformation does not advance horse breeding and what is more Czech horse breeders face fierce competition. On the other hand this leads to efforts aiming to achieve the same or even better results in breeding. However, at the same time we see a constant increase in demands for horses of gentle disposition and balanced character which could be used for leisure riding. The present situation in horse breeding has demanded elaboration and knowledge of horses of undefined breed.

According to Act No. 154/2000 Coll. on Animal Breeding, Selection Breeding and Records of Farm Animals (Breeding Act) the horses must be registered in the Central Horse Register although they do not fall under any union (Misař and Jiskrová, 2008). No such detailed elaboration of this group of horses has been so far worked out.

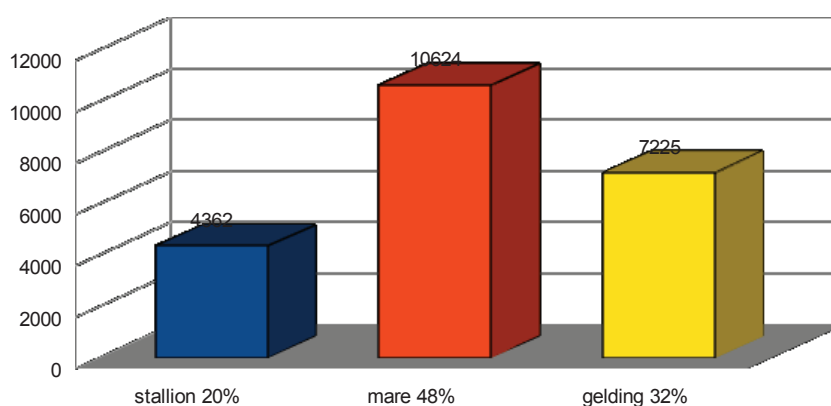
Horses of undefined breed frequently arise from "black breeding"; another frequent reason is usually the fact that the dam was not entered in the stud book. Colts by insemination have no genetic type and reporting the birth of the colt is delayed. Inexperienced and uninformed breeders very frequently lack the basic breeding knowledge.

In our study we focused on horses of undefined breed. As of late the type is given as cold-blooded type, warm-blood type and pony type. The earlier system was wider, see Fig. 1. The most frequent breed among horses of undefined breed is definitely the warm-blood type, i.e. 42%, followed by the pony 28%, cold-blooded type 12% and colts or adult horses where the type was not univocally given 10%.

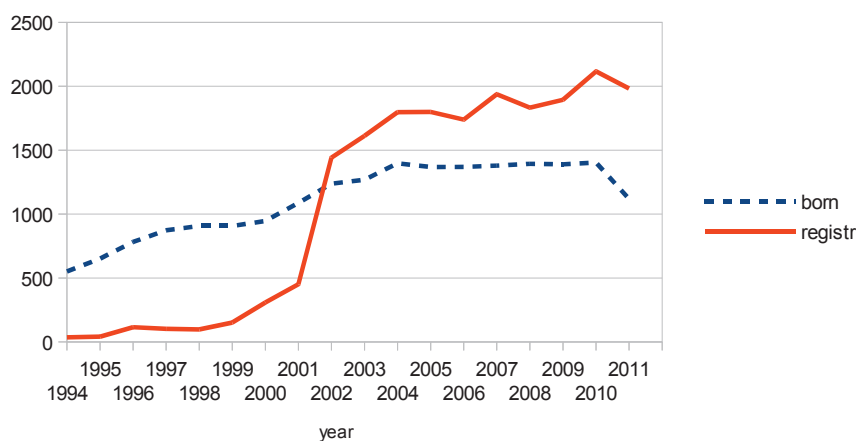
Fig. 2 shows that the most numerous horses in the overall group based on sex are mares represented in almost one half (48%), corresponding to 10624 animals. The share of stallions out of the 4362 animals was 20%; the 7225 geldings represented the remaining 32%. The problem arises in repeated reproduction of the animals; with gelding no such risk threatens provided no mating occurred prior to castration proper. Among the breeders proposals were presented to sterilize horses of undefined breeds to prevent any further increase in their numbers. This radical proposal would to a certain extent restrict further increase in colts of undefined breed but definitely would not prevent crossing between breeds.



1: Groups of horses of undefined breed according to type



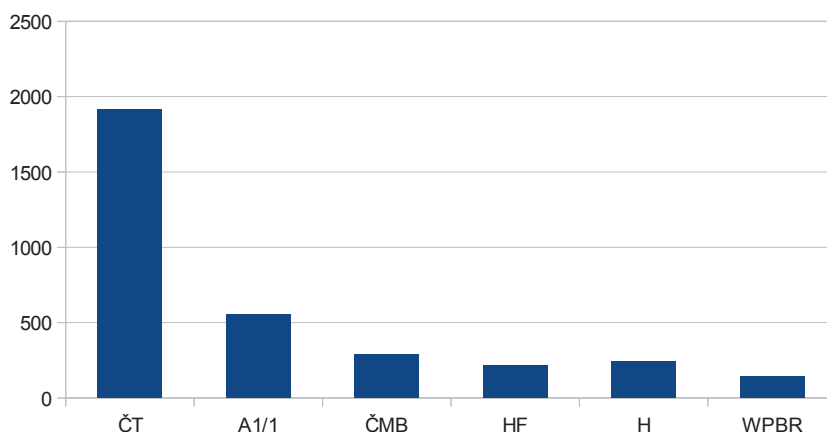
2: Representation of horses of undefined breed based on sex



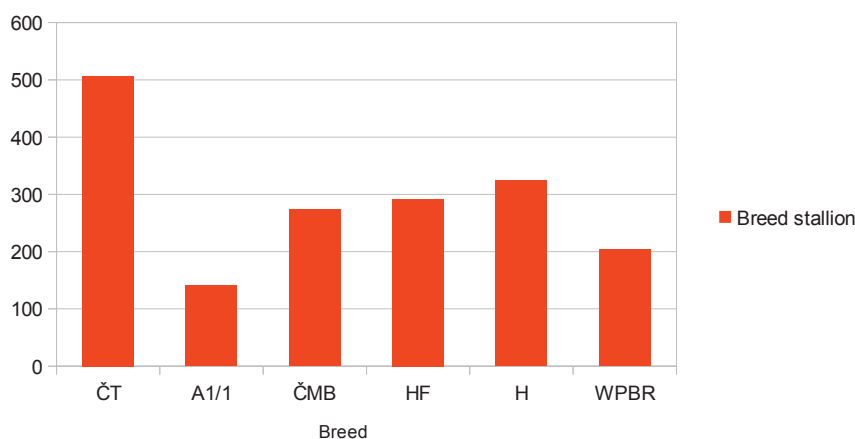
3: Number of born and registered horses

The data for 2012 in Fig. 3 are incomplete, only up to 1 September 2012 and this explains why the trend in this graph is descending. No registration (in Fig. 3 it is the solid line) in the database was given for 1579 animals. In 2010 the highest numbers of horses of undefined breed were registered to date (2116 horses). This is probably connected with the obligation to introduce the Register of Management where farm animals must be filed; many breeders did not yet have the card of the horse and it is the duty of each owner to provide this

document for each horse that he owns. The year of birth (in Fig. 3 the hatched line) is not given for 135 animals. Since 2000 the number of born colts of undefined breed has remained roughly the same, i.e. around 1.300 colts. In 2010 the number of born animals was the highest, i.e. 1403. Inspectors of the breeds and the Czech Breeding Inspection are dealing with the problem of black breeding at first by warning the breeder and if repeated with pecuniary penalties.



4A: The most frequent breeds of dams in the offspring of horses of undefined breed



4B: The most frequent breeds of sires in the offspring of horses of undefined breed

Fig. 4 A and 4B show some of the most numerous breeds of sires and dams of the same breed. Original dams and sires were selected within the breed from 100 and more offspring; this number was selected due to the enormous variety of the group of breeds.

The dams are shown in Fig. 4A, sires in Fig. 4B. Most of the parents of horses of undefined breed are warm-blood horses. The number of offspring of warm-blood dams and sires count 1912 and 507, respectively.

The second largest group of 552 offspring is by dams of the English Thoroughbred and by A1/1 sires it is 141 animals. In terms of the cold-blooded horses we see that the offspring of the Czech-Moravian Belgian horse by sires and dams is virtually the same, 274 and 288 animals, respectively. Horses with a gentle disposition are preferred in black breeding so they can be used in the agro-tourism business. In this way the breeder reduces the costs, so decreasing the demands for such horses cannot be expected without the reduction of unqualified breeders. Among these breeds is the western-type horse and horses of smaller stature, e.g. the Huzule and Haflinger horses. The offspring of Huzule and Haflinger sires is 324 and 292 animals, respectively.

The offspring of Huzule and Haflinger dams is 240 and 184 individuals, respectively.

Fig. 5 does not include dams evaluated together with sires of the same breed given in Fig. 4. The number of filed offspring where the dam was not given was 11511. The highest number of registered offspring was by Czech warm-blood dams (1912 offspring), by the warm-blood type 1145 offspring, by pony 993 animals and the number of horses by dams of the type formerly called the utility Huzule was 492.

Fig. 6 illustrates the highest count of sires of offspring ranked in the group of horses of undefined breed. The number of filed approved offspring without giving the sires was 17432 animals. The most frequent breeds of sires of the offspring of undefined breed were virtually identically two breeds: sires of the Czech warm-blood fathered 507 offspring and American Paint Horse sires fathered 506 offspring. The western type breeds are generally very popular with many leisure riders because of their gentle disposition, versatility and reliability. The next most frequent breed of sires is the abovementioned Huzule horse with 324 offspring and the Haflinger horse with 292 offspring; among the western breeds is the American Quarter Horse with 288 offspring

and also the abovementioned Czech-Moravian Belgian horse with 274 offspring. Breed used for western sport is the Appaloosa which has the same number of offspring as the Holstein warm-blood, i.e. 201.

Since 2001 the numbers of born horses of undefined breed have slowly decreased, while

the numbers of registered horse have multiplied several times since 2002. It is the consequence of later registration, stricter control and introduction of the Register of Management. The number of horses is continuously increasing and the most numerous group are horses used for leisure time activities.

CONCLUSION

The increasing number of horses of undefined breed can be used when applying the increasing preference for the non-production function of agriculture – within the framework of landscape improvement with grazing horses and using horses for agro-tourism. The efforts of breeders should be not to increase the numbers of these horses and to prevent as much as possible the reproduction of such horses. However the phenomenon of such high numbers of horses of undefined breed. Is not only the problem here in the Czech Republic.

The situation in Slovakia is similar. Speaking about the population, the largest group represents Slovak Warmblood. The number of registered horses with unknown origin is in the long term moving around 20% of the total of newborn foals (Gráčz, 2014).

From the data emerges the awareness that it is necessary to provide the breeders with a positive motivation to join the breeding programmes and in this way to increase the production of breeding horses capable of standing up to the keen competition of horses from abroad.

For genetic progress it is necessary to implement progeny testing and its application in practice. To achieve this goal it deems necessary to have a sufficient number of tested offspring by the individual sires. The best way how to achieve this goal is to use the tried and tested modern methods of reproduction – insemination.

Two of our regional stud farms National studs play an indispensable role in horse breeding, i.e. Tlumačov and Písek. These state-owned enterprises studs donated with state subsidies provide a safeguard in the present tough times in the area of horse breeding.

Organising training courses, workshops and other education events is a precondition for the development of horse breeding in the Czech Republic. The Hippology Society, providing Czech hippological society is providing the first public education not only in breeding, but also in other areas of horse breeding, can claim great credit for the education of breeders in the Czech Republic.

It is necessary for Czech breeding to begin to rival breeds in the western more advanced countries. Lately the western breeds have been imported, particularly for their temperament and attractive colouring; Czech breeds are often crossed with these breeds saying that it is because of their better character. Horses eliminated from sports disciplines could be used in agro-tourism because their performance and pedigree have been tested and they would be much better exploited in breeding.

Acknowledgement

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Acronyms

A1/1 – English Thoroughbred
 APH – American Paint Horse
 APPAL – Appaloosa
 ARAB – Arabian horse
 BPP – horses of undefined breed
 ČMB – Czech-Moravian Belgian horse
 ČSP – Czech sports pony
 ČT – Czech warm-blood
 HANN – Hanoverian warm-blood

HF – Haflinger horse
 Half. typ – horse of the Haflinger type
 HANN – Hanoverian horse
 OR 1/1 – Arabian Thoroughbred
 SHAG – Shagya-Arab
 Tepl. – Warm-blood
 N – Noriker horse
 QH – American Quarter Horse
 WPBR – Welsh part-bred
 PK – Stud Book
 ŘPK – Stud Book Order

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