

HORSE BREEDING IN THE REPUBLIC OF CROATIA AND POSSIBILITIES OF ITS DEVELOPMENT**

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Abstract: The trend of capital investments is increasing in horse breeding, as one of the major livestock branches in the Republic of Croatia. A long tradition of horse breeding and natural resources eligible for horse breeding contributed to the creation of great potential for Croatia. Besides, state financial subventions are also helping horse breeding development. All forms of horse breeding are showing an increasing trend of development, which influences an increase in numerical trend of horses as well as their quality. Interest in horse breeding, sports or just in keeping horses as hobby animals is increasing each year. Main investors and movers are owners, breeders, sportsmen and horse lovers themselves. Help through state financial subvention is significant, but still very far from necessary funds. The regulative for financial subvention and other official acts are regulated for horse breeding through subvention groups. This is an efficient measurement to help breeders, but in the future changes will be necessary, mainly through different developing projects. Besides the only state stud farm of Lipizzan horses in Đakovo, many other breeding organizations exist in Croatia. The Ministry of Agriculture, Forestry and Water Management authorized those organizations to maintain their own breeding program. Congruently many Stud Books were published and many are still in the process of publishing. One of the most significant projects realized last year was the international approval of Croatian breeding of Thoroughbred horses. The short period till entering European Union demands horse breeding reformation, therefore Croatian horse breeding passed a major reorganization process and gave a greater accent to independent breeding organizations. The regulation for publishing the identification document or "passport" (NN 74/20007) is also published. The main scientific-research-educational

institution is still missing in order to create the horse breeding strategy. With its work this institution would benefit to more quality horse breeding in all of its segments.

Key words: horse breeding, breeding, horse sport, horse industry

HORSE BREEDING IN CROATIA

Croatian Livestock Center (CLC) is, as a state institution, responsible for keeping the Central register of equidae. In 2006, the total number of horses under selection was 11,983. This number compared with the last year's, increased for 16.12% or 1,664 horses and 1,197 donkeys (Godišnje izvješće HSC, 2006). The Central register of equidae registers 27 breeds and 20 breeding types. Information sources for this paper were Annual report 2004, 2005 and 2006 by CLC and Lipizzan, Croatian coldblood and Posavian horse breeding program. The scientific research was conducted by *Baban et al.* (1998, 1999, 2005), *Čačić et al.* (2006), *Ernoić et al.* (1999), *Ivanković et al.* (2005), *Jukić et al.* (2007) and *Rastija et al.* (1999). Three indicators prove intensive growth of horse breeding in Croatia: an increasing number of horses, a higher number of horse owners and breeders, and an increasing number of horse breeds. The biggest part in Croatian horse breeding, about 71%, is represented with traditional, protected and autochthonous breeds: Croatian coldblood, Posavian horse, Međimurje horse and Lipizzan. According to Regulation of state financial support in agriculture, fishery and forestry (87/2002) these breeds represent the group of native and protected horse breeds. The rest, 29% of horses represent conventional group, which is divided into horses for breeding and horses for reproduction.

The proportion of horses according to group is: 33% warmbloods, 63% colbloods and 4% ponies. Unlike the last year, the biggest growth in number of horses according to group was recorded in the coldblood group. In the second place is the warmblood group and in the third is the pony group. In 2005, an increased number of horses in coldblood and warmblood groups has mostly resulted in reproduction and less in the registration of unregistered horses. On the other side, intensive growth of pony horses in the same year resulted in the registration of unregistered horses. Therefore, the register of pony horses in the period between 2003 and 2006 increased four times. The year 2006 showed the opposite situation. A group of ponies increased as a result of reproduction. This shows that there is still a small number of ponies unregistered and that the increasing number of warmblood

and coldblood groups is still the result of registration of unregistered horses. As in previous years, the increasing trend in the number of horses is noticeable in all three groups. Statistics show that this trend, or even more intensive one, can be expected in the future. According to breeds, the most represented breed is Croatian coldblood, followed by Posavian horse, Lipizzan and ponies. Croatian Lipizzan breeding is highly valued not only in Europe, but also in the rest of the world. Some estimates say that there are 6,000 Lipizzan horses in the world. This number includes 1,100 Lipizzan in Croatia, which makes Croatia a leading country in Lipizzan horses breeding. This proportion will rise even more when horses from Lipizzan Stud Farm Lipik return to their home stables. The Department for horse breeding and selection within Croatian Livestock Center estimates that there are still, besides the horses under selection, about 2,000 horses which are still not registered in the Central register of equidae. According to the same estimates, Croatia has about 14,000 horses. More accurate number will be known after the revision on the field and with registration of all unregistered horses. The second important issue is conducting parentage testing on molecular level, i.e. DNA parentage test, which is now only obligatory for Thoroughbred and pure Arabian horses. Parentage testing is also initiated within the Croatian coldblood breed. It should be also mentioned, that Regulative regarding identification document for equidae also includes microchip application as an identification method.

Except for the trend of increasing number of horses, one more element shows the development of horse breeding, and that is an increasing number of owners and breeders. In 2006, 277 new owners and breeders were registered. From the founding of the Central register of equide, at the end of the year 2006, the proportion of active breeders was 65% or 2,857 from the total of 4,410. Compared to last year, the number of registered owners in 2006 increased by 11%.

The third indicator that shows the development of horse breeding is an increasing number of horse breeds and breeding types. The comparison of years 2005 and 2006, shows that the major increase of breeds and breeding types in Croatian horse breeding is significant in both groups.

The increasing number of donkey breeders and donkeys is also indicated in 2006. Today we know three types of donkeys in Croatia: *primorsko dinarski* type which lives in hilly countryside of Dalmatinska Zagora and is the most represented type (80%), *sjeverno jadranski* type which lives in Kvarner Islands, north Adriatic coast and east part of Istrian peninsula (10%) and *istarski* type which lives in central and west part of Istrian peninsula.

REALIZATION OF HORSE BREEDING PROJECTS IN CROATIA

Except for one state Lipizzan Stud Farm in Đakovo, many other breeding organizations exist in Croatia. The Ministry of Agriculture, Forestry and Water Management authorized those associations to maintain their own breeding program. These organizations are: Croatian Federation of Lipizzan Horse Breeders Association (with ten associations and one private Stud Farm), Federation of Croatian Coldblood Breeders Association (with eleven associations and three private Stud Farms), Federation of Posavian Horse Breeders Association (with nine associations), Croatian Association of Sport Horses, and Croatian Federation of Trakehner Horse Breeder Association "CROAT". There are also a few associations in the process of registration with the Ministry of Agriculture, Forestry and Water Management. These breeders associations are: association of pony, shagya-arab, pure Arabian, haflinger, Croatian warmblood and trotter horses. Stud books of Arabian horses, Thoroughbred, Lipizzan of territorial breeding and Posavian horse were also published. Stud books of Croatian coldblood, trotters, pure Arab and haflinger horses are in the process of publishing.

One of the most important projects that was realized last year was the international approval of Thoroughbred in Croatia. After almost two centuries of existence in the Croatian territory, this breeding was internationally verified. This approval allows Thoroughbreds born in Croatia to compete at any hippodrome in the world, as well as to have a reproduction status in any other approved authority registered by the International Stud Book Committee (ISBC). The head institution in Lipizzan breeding - Lipizzan International Federation (LIF) accepted Croatian Federation of Lipizzan Horse Breeders Association (CFBL) as their members. In 2006 Lipizzan Stud Farm in Đakovo celebrated 500 years of existence, 200 years of organized breeding in the Croatian territory and 60 years of the stallion station in Đakovo. To inform future generations about these achievements, facts were documented in the monography "500 years of Stud Farm Đakovo".

The cooperation with the World Arabian Horse Organization (WAHO) in goal of international approval of Croatian register of pure Arabian horses is also in progress. The same activities started with Haflinger breed as well. The international verification and published Stud Book is expected in 2007.

Horse breeding reorganization established strong connections and cooperation with those national horse associations, but also with domestic and foreign expert institutions, and with international head organizations for

different horse breeds. Agricultural politics strategy on national and local level is created with the aim of setting modern Croatian horse industry. Except for many folklore and cultural manifestations, horses also take part in different breeding shows and exhibitions, where the exhibition of breeding stallions is the most important one. Promotion through many expert and scientific papers, presentations of our horse breeding in domestic and foreign assemblages, through organizing round tables and through daily press, radio and television are also important factors for horse breeding development in Croatia.

ADJUSTMENT OF CROATIAN HORSE BREEDING TO REGULATIONS OF THE EUROPEAN UNION AND PROBLEMS WITHIN BREEDING

A short period until entering the European Union causes obligatory reformation in agricultural production with new regulations in all branches of livestock breeding, which also includes horse breeding. As the result of agricultural reformation, breeders are exposed to greater specialization and structural changes in agriculture. But, according to wider production possibilities by production scale, many could lose their employment.

Experts in the European Union think that one of the possible strategies is horse breeding, respectively sport and recreational activities related to horses, development of services and agrotourism. Employments related to horses have become important part in economy of rural places in the EU. That kind of business contributes the employment, which is important from economical and social point of view. Since animal husbandries already have agricultural fields and labour forces, many activities related to horses are to their advantage. They can include many elements, like usage of pastures, accommodation for horses, riding tracks, horse transport, supply and production of horse food. A stronger interest for activities related to horses could contribute to prosperity of rural territories.

Horses are becoming an important connection between lifestyles in rural and urban region. This connection is specially established through the most profitable part of horse breeding – sport breeds. Horse breeding on pastures and livestock breeding in general, as one of the basic elements in preserving protected countryside and biological diversity in many countries, should also be mentioned. While many countries have problems with too many horses on pasture areas, Croatia does not have enough horses (estimates say that Croatia is 40,000 horses short).

The Croatian national pasture resources and ecological production of horse meat have not been used enough in the way of rational horse breeding. Croatian coldblood autochthonous breeds would have a great part in this process. Besides, their role could also be the preservation of protected countryside and biological diversity.

Statistics shows a great influence of horse breeding on state economy in the European Union, the United States, Australia and other developed countries, so it is with every right called "horse industry". It includes many primary, secondary and tertiary activities. The best indicator on economy influence is the proportion of employment in horse breeding, where in creation of one full time job every horse participates with 0.02%. While in 2001, the European Union counted on average 12.9 horses on every 1,000 inhabitants, Croatia counted not even one horse, more precisely 0.98. But, in spite of hard and low economic conditions for horse breeding, horses are the only livestock product that is exported for breeding and sports.

For more intensive development of horse breeding, the head scientific-research-educational institution is necessary, which is still not the case in Croatia. This institution would include estimates of genetic parameters important for breeding programs of different breeds. These estimates would raise the quality and provide higher income from horse breeding. That institution would also include scientific work in the origin and verification of authenticity, educational programs for experts and breeders. It is hard to raise the quality of breeding with low breeding culture of breeders. This institution should also have under its jurisdiction a laboratory for parentage testing on molecular level (DNA). This test is under the EU rules obligatory for many breeds as a conformation for breeding and selection work. This year the Ministry of Science, Education and Sport approved one project "Analysis and genetic improvement of sport horse breeds in Croatia". The results shown in this paper resulted from that project.

The problems that appear in Croatian horse breeding are mostly the result of adjustments to the EU regulative. The biggest problem that appears due to many changes in law regulations is slow education of breeders. As a consequence many violations of breeding programs and law acts are recorded. There are not enough experts and specialists for specific breeds to enable associations in running their independent work complied with the EU regulations. Modern statistical methods based on sport results should be used in estimating breeding values. The aspect that will need some work in the next few years is the proportion between stallions and mares (1:5) which is unfavourable. A lot of information, obligatory for creating development of

horse breeding strategy, such as the proportion of horses in sports, breeding and recreation, is still missing. One of the most important things still unavailable is the impact of horse breeding to primary, secondary and tertiary part of economy, i.e. the proportion of horse breeding in GDP of Croatia. Especially demanding work will be necessary in verifying a large number of certificates (breeding judges, trainers, handicappers, etc.)

STANJE I MOGUĆNOSTI RAZVITKA KONJOGOJSTVA REPUBLIKE HRVATSKE

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Rezime

U Republici Hrvatskoj se sve više ulaže u konjogojstvo, kao jednu od važnijih stočarskih grana. Uzgoj konja za Republiku Hrvatsku ipak predstavlja veliki potencijal, čemu značajno doprinose duga tradicija uzgoja konja i prirodni resursi za uzgoj konja. Razvoju konjogojstva značajno doprinose i državne mjere novčane potpore. U posljednje vrijeme, intenzivan je trend razvitka svih oblika konjičkog sporta, koji posljedično uvjetuje i povećanje broja grla i poboljšanje njihove kvalitete. Interes za uzgoj, bavljenje konjičkim sportom ili samo hobi uživanje u konjima, iz godine u godinu raste. Glavni ulagači, a time i pokretači su sami vlasnici, uzgajivači, sportaši i ljubitelji konja. Pomoć koja je osigurana kroz državne novčane mjere je značajna, ali još uvijek jako daleko od potreba. Zakonom o državnoj potpori i pratećim aktima, propisane su prema skupinama poticajne mjere za uzgoj konja. Koliko god je to dobra ekonomska pomoć uzgajivačima, u budućnosti će morati doći do promjene u načinu potpore, i to preko različitih razvojnih projekata. U Hrvatskoj, osim jedine državne ergele lipicanaca u Đakovu, postoje brojna uzgojna udruženja različitih pasmina, koja su od strane Ministarstva poljoprivrede, šumarstva i vodnog gospodarstva Republike Hrvatske ovlaštena za samostalnu provedbu uzgojnih programa. Sukladno tome, izdane su brojne matične knjige po pasminama, a u izradi su i nove. Jedan od najvažnijih projekata vezanih za međunarodno priznanje hrvatskog registra uzgoja engleskog punokrvnjaka realiziran je prošle godine. Približavanje ulaska Republike Hrvatske u Europsku Uniju uzrokuje nužnu reformu u konjogojstvu, pa je sukladno tome u Hrvatskoj učinjena velika reorganizacija uzgoja konja i davanje većeg naglaska na

osamostaljenje uzgojnih udruženja. Odnedavno, po prvi puta na snagu je stupio i Pravilnik o izdavanju identifikacijskog dokumenta kopitara ili „putovnice“ (Narodne novine 74/2007). U kreiranju strategije konjogojstva, u cilju razvitka i stvaranja moderne hrvatske konjičke industrije nedostaje krovna znanstveno-istraživačko-edukativna ustanova, koja bi svojim radom dovela do kvalitetnijeg konjogojstva u svim segmentima.

Ključne reči: konjogojstvo, uzgoj konja, konjički sport, konjička industrija

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