

DEVELOPMENT OF CIKA CATTLE BREED ¹

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ABSTRACT

Cika cattle is the only Slovenian autochthonous cattle breed. It originates from Bohinj where breeders bred their own »cow families« and by doing so they kept a relatively high milk yield of Bohinj cows. They did not buy cows outside of Bohinj, only the bulls were purchased by the cooperatives at the cattle breeding fairs. Cika cattle was a widely used breed until the sixties of previous century, primarily as a dairy breed. Political decision made in 1964 significantly reduced the population in the following years. Our research was focused on the study of historical sources which show the development of Cika cattle in the Republic of Slovenia. We have put special emphasis on zootechnical characterization, genealogy, livestock geography, morphology and milk production of Cika cattle.

Key words: cattle / autochthonous breeds / Cika cattle / history / biodiversity / Slovenia

1 INTRODUCTION

Biodiversity of domestic animals is a part of biodiversity of living organisms and refers to all the species, breeds and lines of domestic animals bred for the purpose of arranging food supply of animal origin and for the needs of agriculture. Of the approximately 40 species of domesticated mammals and birds, most of the world's production only covers 14 species and within them about 5.000 breeds are included. In past decades, the selection plan has primarily focused on the search of genotypes with high productivity, and political decisions on the replacement of autochthonous breeds with the breeds of foreign origin and traditional breeds, caused a great decline in the status of autochthonous breeds of farm animals and thus reduced genetic diversity in each domestic farm animal species. A great part of biodiversity in livestock production is lost. In recent decades International Declaration on the Biodiversity (Convention on Biological Diversity, 1992) promotes the conservation

and stimulates the promotion and reestablishment of autochthonous breeds of domestic animals.

At the 1st International Technical Conference on Animal Genetic Resources for Food and Agriculture (The First International Technical Conference on Animal Genetic Resources for Food and Agriculture, 1–7 September 2007, Interlaken), organized by the Commission for Genetic Resources for Food and Agriculture by FAO, documents were accepted which bind all the countries and they present, at the same time, the global agreement, instruction and direction for the future provisions regarding the conservation of agricultural animal genetic resources. The Interlaken Declaration was accepted.

In Bohinj area the original form of Cika (Bohinj) cattle has developed. Cika cattle have always been in a close relationship with Alpine dairy farming, which, due to the lack of the fertile fields in these places, has been regarded as the most important branch of agriculture.

According to the Livestock Breeding Act (Zakon o živinoreji, 2002), Cika cattle are classified among the

¹ The article is part of the doctoral dissertation »Development of Cika Cattle Breed and Alpine Dairy Farming«, issued by Metka Žan Lotrič, Ph.D., supervisor Assoc. Prof. Dragomir Kompan, Ph.D.

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Slovenian autochthonous breeds of domestic animals, under a special state protection. For Cika cattle, different names are used in literature, and at least 30 of them are often associated with the place of breeding (Bohinj breed, Gorenjska breed ...).

By the survey of historical resources on the genealogical development of Cika cattle, the original type of Cika cattle, its spreading, morphology and zootechnical characterization were investigated. We studied the development of this breed which has been implemented through various breeding tasks (breed improvement, selection, planned mating and crossbreeding) as well as breed's milk production results. In parallel, the cattle breeding aspects of Alpine dairy farming and its connection to Cika cattle were studied. We assessed the conservation practices of Cika cattle under the terms of provisions of Interlaken Declaration.

2 MATERIAL AND METHODS

In research of Cika cattle numerous historical sources were found and studied. They all showed the development of this breed at today's territory of the Republic of Slovenia. The main sources were found in Contributions to Bibliography: Historical Sources of Slovenian Autochthonous and Traditional Breeds of Domestic Animals – to the year 1945 (Šalehar, 2009), Contributions to Bibliography: Legislation on the Area of Cattle Breeding for Slovenia in the years 1740–1945 (Šalehar, 2011a) and Contributions to Bibliography: Slovenian Books and Prints on Livestock Breeding Area (Šalehar, 2011b), which include the period to the year 1945. All materials are also available on the website of Digital Library of Slovenia, DLIB.si. Since 2005, Zootechnical Department at the Biotechnical Faculty, University of Ljubljana has been exploring and studying the sources on Slovenian local breeds (the autochthonous and the traditional ones) of domestic animals with the intention to confirm their origin and development. The initial starting point was the base of the National and University Library in Ljubljana (NUL): The Slovenian retrospective bibliography of articles (bibliographic descriptions of articles from the period 1797–1945). The historical sources were also searched by means of COBIB.SI, the union bibliographic catalogue database of the NUL, Catalogue 1774–1947, electronic catalogue Katnuk, and database of the National Museum of Slovenia, different catalogues and other library databases. A lot of books on livestock breeding were found in the library of the Zootechnical Department at Biotechnical Faculty, University of Ljubljana, in other Slovenian libraries, in the University Library in Graz and in the Library in Gorizia. Some materials were found on the web

site ALEX – Historische Rechts und Gesetzestexte Online (Alex, 2011) and on the web site Sistory – History of Slovenia (Sistory, 2011). A web site searcher Google book and others were of great help.

3 RESULTS

3.1 FIRST FOUND RECORDS ON CATTLE AND CIKA CATTLE IN CARNIOLA

The cattle in the period from the 16th to 18th century at today's territory of Slovenia was small in size, but had good milk yield. At that time cattle were heavily crossbred and the breeds were not named except for the Styria region. There Hlubek (1846) named the breeds. During the first Carniolan Agricultural Society (1767–1887) cattle-breeding was improved with the import of foreign bulls. After 1807, the state budget provided 600 florins a year for the premiums, to reward the most beautiful animals. Improvement of cattle breeding with the import of foreign cattle males and females increased in the sixties of the 19 century. Such a promotion had a strong influence on cattle breeds in the four coming decades. The original cattle breed, used until the second half of the previous century in Carniola region, can not be found any more. All Slovenian beef cattle was crossed with imported breeds, mostly with Pinzgauer resp. Bela (Mölltaler) breed, Muricodol, Pomurje and Simodol breed. In the last 40 years of the 19 century 3.000 pure-bred bulls were imported and a few female animals of the same breeds.

In describing the cattle breeds of Carniola region in the second half of 19th century Schollmayr (1872) wrote that phenotypically animals were significantly different from each other. The general term used for cattle at that time was "Kranjska cattle" while individual animals were named according to their color of hair. In Bohinj area red and red-brown hair colored cattle was bred. These animals were extremely small, often not higher than goat males. A small frame of these animals had been associated with summer pasture on the highlands of the Alpine Limestone Mountains.

The special feature of Cika cattle was a relatively high milk yield (to body weight) and the term "Bohinj cow" (Cika cattle of Bohinj area) symbolized an excellent dairy cow (Hitz, 1878; Pirc, 1909; Bohinjjska goveja pasma, 1909; Cvenkelj, 1914; Bohinjcem, 1921). Bohinj cattle was highly resistant and well adapted to the local breeding conditions (Na sv. Lukeža ..., 1872; Povše, 1875).

The oldest discovered written source, where the name of so called »Bohinska zivinca« (Bohinj cattle) is

mentioned, dates back to the year 1846 (Dva nova semnja ..., 1846).

Pirc (1909) described Bohinj cattle development and its phenotype in the following words: "... because it was and it is still something special ..., it was formed from the cattle imported to Bohinj in ancient times ... it was formed under the influence of Bohinj climate and breeding conditions ... Unfortunately, a Bohinj cattle today has almost disappeared ... However, remains of that breed are still present... Ex Bohinj cattle breed was of tanned red color, small frame, it was undemanding about food, but provided extreme milk yield ..."

3.2 GEOGRAPHY OF CIKA CATTLE IN CARNIOLA FROM THE SECOND HALF OF THE 19TH CENTURY UNTIL TODAY

In the year 1872 the red coloured cattle was bred on the wider region of Gorenjska, in the region of Idrija and in the smaller part between Vrhnika and Logatec region (Schollmayr, 1873). According to Povše (1893) the red colored Gorenjska cattle expanded in the area, which today belongs to Gorenjska statistical region. Such a distribution of Cika cattle breeding was largely maintained in the Drava Banovina (Wenko, 1933; Selan 1939) and continued until the sixties of the previous century (Ferčej, 1947; Ferčej and Skušek, 1990). Till this period Cika cattle was a prevailing breed in Gorenjska region. Later, the political conditions began to dictate crossbreeding of Cika cattle, above all with Simmental breed and in the year 1964 a symposium took place in Kranj, where it was accepted, that in the entire region of Gorenjska, Cika (Bohinj) cattle is replaced by Simmental breed.

On the ground of the remaining Cika cattle in the far and distant places, the planned and professional breeding work began to perform after the year 1990, and was even more intensive by the year 2000, strongly supported by that time Society for the conservation of Cika cattle breed (grounded in the year 2001), which by the year 2010 got the title Acknowledged breeding organization – Association of breeders of the autochthonous Cika cattle in Slovenia.

In the last decade the population of Cika cattle breed has increased and now extends to the larger area of Slovenia and is significantly more diverse than it used to be. In 2011, Cika cattle was reared by 736 breeders, where farms with only one animal of this breed prevailed (Gorjanc *et al.*, 2012).

3.3 ZOOTECNICAL CHARACTERIZATION DEFINES BREEDING STANDARD OF CIKA CATTLE

Suitable zootechnical characterization has been an important criteria to select animals already in the past and it used to constitute the basis on which the breeders got a premium per animal. This was the topic of the article entitled »Versuche zur Hebung der Rindviehzucht in Krain (von 1771 bis 1877)« written by Schollmayer in 1880. The author mentioned a court decree from 1807 by which 600 florins were granted annually for the premiums given to the most beautiful cattle (17 premiums of 50, 40 and 30 florins).

Introduction of the Tyrolean cattle breed in Bohinj in the year 1853 indicates the knowledge of the basic zootechnical measures of that time. Breeders were aware that primarily well-adjusted type of breed to the local conditions could be preserved by the introduction of the breed of similar characteristics (smaller frame, good milk yield, modesty referring the pasture, adjustment to Alpine regions, similar colour). The import of Pinzgauer or Mölltaler purebred bulls and heifers caused the loss of monochrome and a white line occurred in the hair of animals. In comparison to the Pinzgauer cattle the body weight of adult animals was lower, but some body traits still stayed similar to the ex Bohinj cattle.

The original Bohinj cattle breed was of monochrome red colour and of a small frame. The favourable characteristics of Cika cattle were fine bones, thin horns, short head which was wide in the forehead, big and lively eyes, often black snout, poorly expressed dewlap and highly positioned tail (Bohinjecem, 1921). The first systematic description of phenotypic characteristic for Cika cattle dates back to 1935 (Navodila za presojo ..., 1935).

The current Cika cattle population is characterized by a great phenotypic variability and according to the breeding program the total Cika cattle population is divided into three groups: Cika type, partly Cika type and Pinzgauer type. However, only Cika type represents the preserved original type of the breed (Žan Lotrič, 2012). Therefore it is necessary to consider the body characteristics in the estimation of breed's origin because they define Cika cattle type in greater measure, than the colour of the animal.

3.4 MORPHOLOGY OF CIKA CATTLE

First measurements of body size of Cika cattle dates back to the end of 19th century, when 18 body measurements were recorded (Povše, 1893). The author did not provide information on the general condition of animals



Figure 1: A herd of Cika cattle before the Second World War. Photo: Foto atelje Avg. Blaznik Škofja Loka. It was bought at a flea market in Ljubljana on July 22nd 2007 (Photo owner: Andrej Šalehar)

and describes Bohinj cows as animals of a small frame and a long head. Half a century later, Bohinj cows were still small in size (Urbas, 1958). Bohinj cows had a highly positioned tail. Fifty six years after the last study of Cika cattle body measurements, more than three quarters of the total cow population of Cika cattle has been measured. These data are now compared with the average values from the past, because the data variability were unknown. Cika cattle type was closer to the average values of Bohinj cows measured in 1893, to the average values of alpine type of Gorenjska cows measured in 1947, and Bohinj cows measured in 1958 than the total Cika cattle population from 2005 (including all three types). The assessment of strategic priorities stated in the Interlaken Declaration and provisions of breeding program suggest that special attention should be given to the conservation of original Cika type of Cika cattle (Žan Lotrič, 2012). Morphology of Cika cattle have has been studied also on the base of old photos.

3.5 MILK YIELD OF CIKA CATTLE

Expertly organized breeding work for Cika cattle was restored by the foundation of the first Cattle breeding cooperative in Carniola region, which was found in the year 1906 for the red Cika cattle in Selce above the town of Škofja Loka (Legvart, 1910). Greater and greater importance was attributed to milk recording process and cattle breeding experts made their efforts to spread it into all six breeding regions of the Drava Banovina. In the year 1934 there were 72% of all pure bred cows of Gorenjska Cika breed included into milk recording process. It remained an important selection work also at the

end of the Second World War, when the buyers of cows took into consideration the criterion of the official data of milk recording results. It was held true that Cika cattle were a distinctive dairy type. For Cika cattle breed regular calving's and better fertility were typical in comparison with other cattle breeds, what was contributed to the Alpine pasture. The political decisions at the end of the sixties of the previous century caused the distinctively decreased number of animals of Cika cattle included in milk recording. It ended in the year 1971 on social enterprises and in the year 1979 also in private sector.

4 CONCLUSION

The historical sources on Cika (Bohinj) cattle are numerous; yet the accuracy of the description can be concluded, regarding the actuality of the breed in a single period. Cika cattle have always been in a close relation with the Alpine dairy farming in the region of Bohinj and the Bohinj cattle was known especially as a dairy breed. The breed was extraordinarily adapted to the steep mountain pastures and had an unpretentious necessity of forage. These two characteristics enabled the survival and milk production of Cika cattle in such modest breeding conditions. It must be noted that encouragement of Cika cattle production in connection to Alpine dairy farming, which has always been the most effective form of farm management in the mountain areas, could be beneficial nowadays as well. Apart from the marketing of dairy and meat products straight from the farm, the conservation of Slovenian natural and cultural heritage in addition to the biodiversity in animal husbandry is of great importance for the future development.

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