

Brown cattle in Croatia – current situation and perspective

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Introduction

Cattle population in Croatia is composed of Simmental (65.6%), Holstein (29.1%), and Brown (3.1%) breeds (HPA, 2010). The other minor breeds are: Hereford, Charolais, and autochthonous breeds – Istrian, Slavonian-Syrmian Podolian cattle, and Buša (2.1%).

Brown breed was introduced in Croatia in 1869 when 17 bulls were imported from Montafon and Altagau region in Dalmatia (Početni..., 1993). However, the acclimatization of the breed was unsuccessful. The first notable import of a Brown herd was established in Mrzla Vodica, Gorski Kotar, in 1925. The breed was mainly used for cross breeding of autochthonous breeds (Buša and Slavonian-Syrmian Podolian) to increase their milk production. Due to good production characteristics, Brown breed was accepted by farmers in mountain (Gorski Kotar and Lika) and coastal regions (from Istra to Konavli) of Croatia. During twentieth century breed was well established, but never reached larger proportion in Croatian cattle population.

Number of Brown cattle in Croatia

The number of Brown cows showed a rising trend from 2003 until 2006 (Table 1). From 2007, the number of cows decreased. However, the number of cows in milk recording was constantly increasing until 2008. According to the annual report (CAA, 2010), 40.43% of all Brown cows were included in milk recording scheme in 2009.

Table 1: Number of herds and cows in milk recording from 2003 to 2009

Year	Total no. of cows	Milk recording		% recorded cows	Source
		Herds	Cows		
2003	4147	44	445	10.73	HSC (2004)
2004	5749	164	1320	22.96	HSC (2005)
2005	6472	130	1523	23.53	HSC (2006)
2006	7442	178	2243	30.14	HSC (2007)
2007	6195	187	2765	44.63	HSC (2008)
2008	5991	179	2771	46.25	HSC (2009)
2009	5731	135	2317	40.43	HPA (2010)

The proportion of milk recorded cows in regard to total number of cows increased from 2003 to 2009 approximately 30%. In reported period, more herds were included in recording and the average herd size increased. The increase was due to farmers' interest for milk recording because of state subsidies for animals recorded and also the use of laboratory results for herd management.

The number of lactations is constantly increasing from 2003 (Table 2). During the first years, the number of lactations was low, and the results can not represent total population of Brown cattle in Croatia. In following years, the number of recorded cows and calculated lactations is rising, which enables better prediction of milk production. The average milk yield in standard lactation constantly increases during last five years.

Table 2: Number of lactations and average values for milk traits in standard lactation by breed in years from 2003 to 2009

Year	Number of lactations	Yield (kg)			Content (%)		Source
		Milk	Fat	Protein	Fat	Protein	
2003	104	5538	222	187	4.01	3.38	HSC (2004)
2004	191	5684	227	193	3.99	3.40	HSC (2005)
2005	436	4925	188	164	3.82	3.34	HSC (2006)
2006	959	5052	203	173	4.03	3.43	HSC (2007)
2007	1329	5264	207	177	3.93	3.37	HSC (2008)
2008	1643	5373	218	183	4.07	3.40	HSC (2009)
2009	1891	5437	217	185	3.99	3.40	HPA (2010)

Fat and protein yield were almost constant in period from 2005 to 2009. During the first three years differences in yields were inconsistent due to small number of lactations. Similar results were obtained for fat and protein content.

Brown breed is reared on family farms (HPA, 2010) and is considered as a dual purpose breed, used for milk and meat production. Adaptability and breeding tradition of Brown breed give a big relevance in the regions where Simmental breed is not common. Istria County is considered as the most important part of Croatia for breeding of Brown breed, followed by Bjelovar-Bilogora and Lika-Senj County.

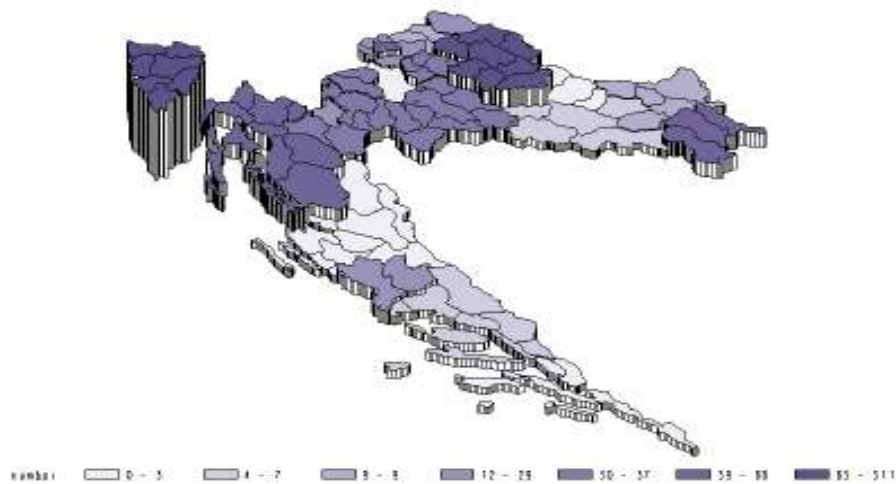


Figure 1: Number of Brown cows by region

In Istria County, 311 Brown cows were reared in 2009. Several breeders have herds with more than 20 cows. One of the most important farm for cattle breeding and milk production is „Orbanić farm“. The farm is specialized for milk production and raising of young stock. The average milk production in standard lactation was 6957 kg, with 3.90% fat and 3.51% protein content.



Figure 2: Brown cow and calves at the Orbanić farm

Although the Brown breed is dual purpose breed, growth performances were not tested. Appropriate daily gain and body composition of animals is desired. The selection on growth performance is only indirect i.e. only breeding animals with appropriate growth performances are chosen as breeding animals.

Breeding program

Breeding program for Brown breed was established in 2006. Breeding goals are related to milk traits improvement: milk production of 8000 kg, with 4.0% fat and 3.45% protein content. However, current population of Brown breed is too small. Therefore, cows are inseminated using semen of foreign bulls (Germany, Austria, and Switzerland) to achieve larger genetic progress. Breeding program will be completely performed when the size and structure of the population will be eligible for implementation of the program.

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