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Conference paper

ALBANIAN LOCAL CATTLE BREED

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The cattle in Albania

The cattle domestication was occured about 6000–5000 years before the new era in Asia and the Middle East.

It is recognized that the ancestries of the European cattle were derived from three subspecies:

a) B. Taurus Brachyceros (or longifrons), which was known as a domesticated animal early in the Neolithic period;
b) B. Taurus Primigenius known in Caesar's time as the wild ox of Europe;
c) B. Nomadicus, it was considered as contemporary with man in India, in the early Pleistocene.

Other names common in the early writing include B. Taurus Frontosus, the Swiss spotted cattle; B. Taurus Brachycephalus, the short-heded cattle such as the Dexter, Eringer and Zillertaler breeds.

In the Balkans, Minor Asia, Central Asia, Eastern and Southern Africa, there was a wide variety of the intermediate forms grouped in the known species named Bos Taurus of Bos Inducus, where the early crossings with Zebu.

Until at the early XX-th century, there was local cattle breed only. In different announcements this cattle was named Illyrian Dwarf Cattle, which was classified into the group B. Taurus Brachyecerous. First importation of genetically improved breeds dated on 1927's. 6 cows and 2 bulls of Jersey breed were imported from USA.

Since 1927's in Albania the period of exotic breeds' importation has been going on accompanied by the massive crossbreeding on local cattle. Up to '40's of last century, a limited number of animals were imported, which belonged to a large range of breeds such as Jersey, Guersney, Brawn, Oberiental, Maramane and Valdostana.

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From 1950 to 1990, cattle breeds: The Red of Steppe, the Red of Gorbatov, Magartarka, the Red of Estonia, Jersey were imported. The later period, the importation of Jersey, Black and White, Holstein Friesian cattle breeds were prevalent.

In '90's, a large amount of semen from beef breeds for crossing on dairy cattle breeds as well as Tarantease, Norwegian Red, Simmental cattle breeds etc were imported.

The AI application using liquid nitrogen frozen semen began during '70's to '80's. At early '90's this technique was applied at 60% of the whole cow population in Albania and 100% of cow population situated in lowland and hilly areas of Albania. The natural matching using the improved breeds' bulls were applied to the rest of cow population. Only in the marginal mountainous areas, the projects for genetic improvement of local cattle by using the exotic breed bulls were not applied.

Political and economical transformations during '90's reflected changes in the breeding structure of cattle in Albania. In the coastal lowland, the importation of Holstein-Friesian breed increased whereas the concern to Jersey breed reduced. There is a trend where dual purpose breeds such as Simmental, Tarantease, Norwegian Red are taking place more and more. Although beef production is one of profitable activities, beef breeds like Limousine, Charolais, Belgian whiteblue, Marchigiana and Piemontese are not imported as alive animals, but only their semen is used for industrial crossbreeding.

After '90's, as a consequence of damaging the public structures of AI service and carrying out this service from private operators, the percentage of cow population artificially inseminated considerably reduced. Actally, only about 35-40% of cow population is artificially inseminated. Bulls used for natural matching are selected, supported on empiric information and experience of farmers. In hilly and mountain areas of country, the concern of using the bulls of improved breeds has greatly declined. The regression to local breeds is high.

Until at early '90's, according to official report of Ministry of Agriculture, local cattle breed submitted almost 100% to crossbreeding with exotic breeds. In coastal lowland and hilly area of Albania, this crossing was very advanced. Menwhile, in mountainous area, official statistics showed that genes of Jersey or Oberiental breeds were present almost in the whole cattle population.

The announcements for the existence of local cattle breed began to be published, no officially, only after 1995's. The first investigating expeditions, methodically prepared, were carried out on 2003-2006.

Local cattle »Cow of Prespa«

Different publications show that in the region of Prespa's lakes, which lies in South East Albania, in the border with Macedonia and Greece, a »dwarf cattle« is present. According to personal information of Dr. Th. Schultze – Westrum »... at mountain zones of this region, cows have been seen grazing and looked like goats...«. Meanwhile in »Mason's World Dictionary of Livestock Breeds...« the name »Cattle of Prespa« is not separately mentioned, but the description is given to »Western Macedonian Cattle«: West Macedonian: (Greece) / dwarf / variation of Greek Shorthorn / cf. Macedonian Blue, Rodopi.

Supported upon the data collected during the investigationg expeditions carried out in the region of Prespa, it is reported that local cattle population in this region (Albanian part) excepting cows of clearly expressed traits derived from crossbreeding on imported breeds has a breeding structure given in Tab. 1.

Table 1 – THE DATA FOR LOCAL CATTLE POPULATION »COW OF PRESPA«

Village	Remark	Total number of cows	Prespa cattle
Zaroshke	Advanced process of crossbreeding	250	30-40
Liqenas	Crossbreeding take a place, still pure breed bulls	600	200-300
Gorice e vogel	Ongoing crossbreeding	250	60
Kallamas	Ongoing crossbreeding	350	100

A few data on phenotype's traits of local cattle »Cow of Prespa« are given in Tab. 2. Hypothesis: Cattle of Prespa may be one of the last representative (still living) of Neolithic cattle (Cattle of the New Stone Age), according to Rutimeyer Torfrind: Bos Brachyceros palustris, similar to them, there were until at the end of XIX-th century in several of very isolated areas in the Alps of the Europe.

Table 2 – A FEW DATA ON PHENOTYPE'S TRAITS OF LOCAL CATTLE »COW OF PRESPA«

	Morphology, basic biology		
1	Birth weight	Average (kg)	15-20*
2	Body weight – adult male	Average (kg)	230-250*
3	Body weight – adult female	Average (kg)	120-150*
4	Wither weight – adult male	Average (kg)	120-125*
5	Wither weight – adult female	Average (kg)	95-105*
6	Milk yield	Average (kg)	900-1000*
7	Lactation lenght	Average (days)	280-310*
8	Age of first calving	Average (days, kg)	800-850, 100*
9	Coat colour	Grey-greyish blue-brown-reddish brown-ochre, sometime dark, hair coat of original type often coarse and sometime shaggy	
10	Colour of horns, hoofs and mucous membrane	Colour of horns and hoofs grey or white with black tips Mucous membrane grey-black	
11	Direction of horns	Horns short and bent front-inwards or up-inwards	

(*) the data are subjectively estimated!

In-situ conservation program

Vision of program

- To accomplish the implementation of urgent measures for in-situ conservation.
- To increase the number of the cows and improve animal yields by improving management conditions.
- To establish facilities for sustainable economic use of this local population. To add its economic value by milk processing, producing and marketing of local products and using them as a factor for agro-tourism development.
- To affect the sustainable development of the Prespa's Ecosystem

Mission of program

- To promote and support the development of the Cattle Breeders' Association »Cow of Prespa«.
- To prevent the reduction od population size and crossbreeding with exotic breeds.
- To establish organisational structures for the implementation of in-situ conservation program and the selection of 10 (ten) lines of male reproducers and 10 (ten) families.

- To transfer new technology in accordance to the requests of production system improvement.
- To increase knowledge of farmers by developing private extension service.
- To promote local cattle values »Cow of Prespa«.

This program is supported by GEF/PNUD/SGP and accomplished by Association »ALBANEGE«. At the first phase, 32 farmers are involved in.

In total, 53 cows are selected, which have formed »breeding nucleus«. Actually, 6 male calves are selected to produce AI bulls.

The program anticipates the inclusion in In-situ conservation scheme of about 200-250 cows of local population »Cow of Prespa«

Local cattle »Illyrian Dwarf Cattle«

In remote mountain areas of Albania, the opportunities for the existence of local cattle are reported by different observers. Dr. Berthold Traxler in SAVE Foundation Magazine, 2001 wrote »it is important to be studied if 'Busha' cattle breed – Kosovo, has genetic similarity to 'Illyric Dwarf Cattle' that is situated in the border zone, Albania: during two journeys to the North of the Albania – in the area between Kukes and Shkodra – one observed that the population of local cattle breed 'Illyric Dwarf Cattle' was almost similar to that found during the mission carried out in 1996's. The differences as a consequence of crossbreeding with exotic breeds are not observed because of these zones of Albania have always been isolated«.

Local cattle population – Illyrian Dwarf Cattle – Lekbibaj zone – Tropoje

Lekbibaj zone is one of the most isolated one of Tropoja District. There is no motor-way to travel to villages Salce, Palc, Brise, Curraj and Betash. As a consequence, the posiibilities for entering exotic breeds and crossbreeding them on local breeds have been and are very limited.

The expedition for the identification of local cattle population in this zone isolated on the north of Albania proved the hypothesis fot its existence. The cattle that is managed in the families of these villages 1-2 cows/family, obviously express the traits of an unimproved breed. Number of cows of this population is estimated to about 600-650 heads. A few the describing data estimated to animals of this population are given in Tab. 3.

Table 3 – A FEW DATA ON PHENOTYPE'S TRAITS OF LOCAL CATTLE »ILLYRIAN DWARF CATTLE«

	Morphology, basic biology		
1	Birth weight	Average (kg)	13-18*
2	Body weight – adult male	Average (kg)	200-250*
3	Body weight – adult female	Average (kg)	110-140*
4	Wither weight – adult male	Average (kg)	115-120*
5	Wither weight – adult female	Average (kg)	95-105*
6	Milk yield	Average (kg)	800-900*
7	Lactation lenght	Average (days)	280-300*
8	Age of first calving	Average (days, kg)	800-830, 90-100*

Ministry of Agriculture, Food and Protect of Consumers in 2007 has funded a pilot project, whose objectives are:

- local cattle identification in Lekbibaj zone,
- promoting and setting up groups of farmers that manage cows of this genetic pool,
- establishing database with the main describing data and the producing ones,
- establishing the conditions for beginning an in-situ conservation program and sustainable economic use of this local cattle.

Local cattle population – Illyrian Dwarf Cattle – Sinanaj Zone – Tepelene

In the Sinanaj's and Dhemblian's villages, in the mountain area of Kendrevices, local cattle breed have been identified. Their phenotypic profile and body size are indicators that support the hypothesis that this population may be classified in local cattle – Illyric Dwarf Cattle. Local synonym of this population is Gurgucke (Flintstone). That expresses the fact that it is an animal grazing on rough ground with a lot of pebble.

The cattle is distinguished to very strong hooves and agility in movement. The population size is about 100-120 cows. Cows are managed under the natural condition, almost in wild state. During all the day they are grazing. Ones have developed the reflection of coming back, staying in sheltering place (shack), roughly built shed, during all the night. Most cows are only kept to produce suckling calves. Cows are not milked and calves suck milk of their mothers during all the lactation. The bull is kept together with cows in herd during all the time. The farmer takes care of keeping bull only one year in his

herd. As a rule, calves sold to meat are 16-18 months old and average live weight is 150 kg (m) and 130 kg (f). Local cattle named »Cow Gurgucke« has:

- Short body, wither height 90-100 cm, narrow rump, undeveloped udder, short legs, shin girth 13-14 cm.
- Brown-yellowish colored mantle, brown colored head, white colored lip, whithened extremities.
- Short horns, bent front inwards of bent up-inwards, black colored short horns.
- Medium sized head, developed mandibles, small eyes to developed orbits ones.
- Adult animal live weight, averagely 150-200 kg (m) and 140-160 kg (f).

Although cattle population is a small one, it is not risked to be dissappeared. On the contrary, concern of farmers is its increasing. That is a result of demands increased to veal from calves produced by this population. Meanwhile, the management of this breed under entirely natural conditions, half-wild, creates possibility of keeping calves on very low costs.

Local cattle population »Illyric Dwarf Cattle«, known with the name »Lopa Gurgucke« is one of the last alive relics of this native breed that in the past populated South Western Balkans.

More detailed, completed study using more scientific methods, assessment of polymorphism – all the molecular, DNA level – estimation of genetic distances from other cattle population are actions planned to be carried out. Organizing farmers that manage this genetic fund, promoting them to be involved into a program for the management of this fund, and the implementation of a project for in-situ conservation are part of Program and National Action Plan for FAnGR Conservation in Albania.

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