



SUSTAINABLE CONSERVATION OF THE ILLYRIC DWARF CATTLE

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INTRODUCTION

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Albanians dealt mainly with livestock since ancient times. This relates to climatic conditions offering land for region animal breeding. In the early twentieth century, there was only local breed cattle in Albania which is mentioned in several articles of the time by naming it Illyric Dwarf Cattle, classified in the group of *Bos. Taurus Branchycherous*. Morphology shows a short body, strong skeleton, buttock narrow and undeveloped udder. Large head, developed mandibles, eye orbit developed. Mantle color of reddish brown or light brown, with gray shade. Short horns back before the high, thin and pointed. Bleached white lips and extremities, black vulva.

According to the data collected so far, the size of the cattle population is 550 - 650 heads. Trends to increase the number of heads and in-situ conservation of this cow are on

the rise, but movement of population from these areas to the cities a negative role in this regard has played. This proves the statistical data obtained in the area Nikaj - Mërtur where in 1990 there were 2350 head of cattle from this race and at the end of 2011 were only about 650 heads (according to data Municipality Lekbibaj).

Quality	No.	Name	Unit	Quantity	%
products from Busha cow is very high. This comes as a result of the composition of the food that it consumes cow and claimed conditions - land where grows .	1.	Agriculture Land	Ha.	636	4.4
	2.	Forests	"	9490	66.3
	3.	Meadows & Pastures	"	3902	27.3
	4.	Fruit Trees	"	270	2
	5.	Total	"	14298	

Tab. 1 Surface of Nikaj –Mertur Area
Source of information -(Lekbibaj Commune)

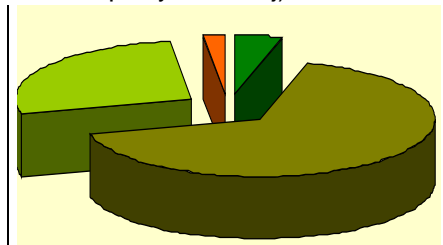


Fig. 1 Ripartition of Surface of Nikaj

Products are fully BIO because in this area, and treatments used no chemical fertilizers on crops, or in the Alpine pastures and other natural pastures where the cow feeds. Cattle generally do not get sick and consequently, they are not treated with veterinary drugs or hormones. The cost of production is low and their prices are higher as a result of their consumption values. Yield of milk produced by the cow Busha is more than six times its body weight. High quality and value great food and milk by-products such as: cheese, yogurt, butter and milk curd, which is currently almost used for self consumption by the community of this area, due to geographical area (away from urban centers) lack of infrastructure and mountain tourism.

Conservation, management and sustainable economic use of indigenous farm animal genetic resources is one of the strategic priorities of the national action plan which will depend on perspective development of communities of the areas where these resources are found. But we must emphasize that these unique resources for the value that they carry have the risk of extinction if measures are not taken to prevent genetic erosion that they are suffering. Given this situation, undertaking research aimed at identifying the size of this population and to take actions necessary to in-situ conservation in order not only to stop reduction of bovin poulation but the design and implementation of an in-situ conservation program with order management and sustainable economic use of human population. Within the research periodic missions were conducted that had aimed at achieving the program objectives. Monitoring indicators are held for bovine population, the dynamics of its development, parental generation selection is made and pairing based on defined selection schemes for natural mating.

Study of bovine population Illyric Dwarf Cattle (Busha Type) Lekbibaj – Tropoje, Albania, Autochthonous Genetic Resources, is an original contribution in accordance with the requirements of international organizations of indigenous genetic resources. This study represents a real contribution to the development of indigenous genetic resources in their historic habitat. For about 90 years, changes in morphological indicators are small. We believe that these changes do not come as a result of an intersection or replacement with exotic breeds, but due to continuous self selection farmer to increase milk production and the increase of care for breeding and feeding the cows. Therefore, strengthening the idea that today's bovine in these area is a direct descendant populations of former local bovine of Albanian Alps.

The Agricultural Technology Transfer Center Fushe Kruje aims the preservation, conservation and development of local cattle in its area, to increase the income of the community in very isolated rural areas through the commercialization of specific products. Agricultural University of Tirana, University of Natural Sciences as a genetic resource and further scientific interest, non-governmental programs aimed at establishing cooperation for farming product commercialization. Implementation of regional cross-border cooperation projects can be a way of indigenous genetic resources conservation transfer.

We also included in the study the Department of Biology, Faculty of Natural Sciences, University of Tirana for the qualitative analysis of Busha cow milk samples.

WHAT PROBLEM DOES IT SOLVE?

Relationship between human and bovine stretch back to the very early time. Cultivated Cattle today's provides milk, meat to meet the nutritional diet of the human population. For centuries, the cattle is considered as an indicator of health, even today some nations and cultures, cattle owners remain as a symbol of health and leading economy wherever sold or purchased in the market. Cultivated Bovine widely entered early time in human food diet. Provides a nourishing fluid milk protein, and meat provides protein. Cattle breeding helps meet the daily needs for food. This and the ease of feeding them makes the most popular cattle. Beef is ruminant with a unique digestive system that allows them to digest insoluble plant from human population. In pasture, cattle can easily turn the grass and plants food source that one can use easily.

As the human being developed, beef was limited to small areas and individual farms. The area Nikaj - Mërtur, the climate is harsh, cold winters, snow and frost. Most of the inhabited area has hot and dry summers. In general, this area is tough. It has water sources: rivers, streams, springs and picturesque glacial lakes. Precipitation in this area, are distributed in three quarters of the year and presented without much total change from year to year. Average temperatures in the winter are from -2 °C to 10 °C in winter and in summer from 25 °C - 28 °C. Relief is generally broken. Nikaj - Mërtur Zone considered as an area with a wealth of rare flora and fauna. High diversity of habitats in the area is intertwined with mountain climate impact, framed forever with a variety of vegetation and animals, which in addition to the natural beauty, there is a great scientific and economic importance. According to previous research in this area, over 1650 species of plants grow and a diversity of animal world, in many cases, original and special.

As shown in Figure 1, 93.6% of the total surface are forests and pastures & meadows which makes a variety of plants and animals. The surface of the fruit trees as walnuts and chestnuts are over 68% of the total. In mountainous areas, Busha cow husbandry is an important factor for milk production, meat and by product from milk. These products and by-products are considered as the primary food for the human population as providing a good part of daily protein in the diet. Most of the families in the area (85%) breed cow Busha.



In general, every family keeps 1 - 2 cows, but there are some families which grow 5 - 10 heads/ heard. Limitation of number of cows comes because:

- Products used for household consumption can not come out in the market currently due to geographical position of villages, away from populated centers;
- For lack of urban infrastructure or due to financial difficulties in the construction of dairy milk collection and processing centre.

Family traditions for cattle keeping are preserved until today. They are kept for 9 months in stables built near homes and for 3 months they graze in the meadows and alpine (mountains). Mountain pastures are used by the beginning of June to early September. Mountain grasses are used for ruminants (goats and sheep) by mowing the meadow, whose grass is prepared for food in winter. Each area has its mountain village set. Every family builds a barn near their homes for breeding animals. Stables are generally simple. A dry place is used to build the stable, to protect cows from moisture and winds, so as to be possibly isolated from the strong currents of air (wind) for the winter period. There is no wiring to supply drinking water for the animals, but water provision becomes relevant in tubs and buckets. A positive fact for animal water supply is that there is sufficient water (spring or water) in every family to meet their physiological requirements.

Characteristics/cm	*Kuhneman A. year 1922	**Tartari T. Year 1965	Livestock Technol. Depart. (Nikaj-Mertur)
Height wither	96.29	98.90	127.7
Length of body	110.37	113.52	
Length of head	40.46	39.54	45.1
Length of the forehead	17.80	17.33	
Width of the forehead	13.53	13.15	21.2
Length of horns	16.70	18.44	28.9

*Comparative data MORFOBIOMETRIKE-Kuheman A.
** Comparative data MORFOBIOMETRIKE- Tartari T

Tab. 2

Busha cow is characterized by a great durability to resist against environmental conditions, habitat where it lives: low temperatures, snow, rainfall and storm, strong winds, somewhat drought in the mountains, rugged, mountainous terrain of extreme. Under the influence of nature, Busha cow have left those qualities which are characteristic of wild animals. Strong constitution, in connection with great resistance and agility to cope with the difficulties of nature; Busha cow is resistant to infectious or parasitic diseases, which are highly problematic disease in farmed animals. This makes Busha favorite cow or its products safe consumption by the population. Good health and great stamina and ability of Busha cow to exploit poor nutrition should be considered as the

most valuable qualities. Busha Cattle breeding Nikaj - Mërtur area, Tropoje. Nikaj - Mërtur provinces - is in the middle of the Alps, in the northeast of Albania, at the mountain foot along Drin river. It consists of 13 villages administered by Municipality Lekbibaj. Height above sea level starts from 280 m (Lake Koman) to 2196 m (White Peak). Busha cow enters the pile of European cattle with short horns, which according to many research derived from small wild prehistoric cow. Adametz-i called Illyrian cow, where the construction of the head and skeleton has close ties with several kinds cow genetic Carpathian mountains, of which stems Poloneze red cow.

Phenotypic indicators of the Busha type, are subject to change depending on the areas where situated, breeding and feeding, where good pasture has a better development of the body (height wither) greater body weight, etc.. In the poorest countries in the pastures, height wither goes an average of 100 - 115 cm and body weight 180 - 200 kg. But in areas with good pasture, these indicators change (height wither 120 - 125 cm, body weight 250 - 280 kg). Typical Busha cow in different areas varies according to pigment robe, they appear: Open gray, wheat, chestnut, dark chestnut, red and all black. In Table 2 are shown the comparative morphological data.

Implementation conservation program began in 2008 and it is ongoing. Local cattle population -"Illyrian Dwarf Cattle" Nikaj - Mertur (Lekbibaj) zone Tropoje is estimated to be about 600 heads. The cattle are managed in the families of village 1-2 cows/family obviously express the traits of an unimproved breed. Lekbibaj zone is a mountain area about 1000 m sea level and is the most isolated zone. Different observes reported that Busha cattle breed population in Kosovo and Montenegro have genetic similarity to Busha situated in the border zone of Albania.



Milk production per year is estimated about 1200-1300 l and body weight is about 200-250 kg. Natural breeding is used within the type. Alpine natural pasture is used about 6 months and in wintertime the basic daily ration is hay supplemented with a little concentrate. Milk contains $3.3 \pm 0.6\%$ fat, $08.03 \pm 0.08\%$ protein, 5.5 ± 0.1 lactose, 10.1 ± 0.2 dry matter. With the method electrophoresis acidic conditions result in the kind of beta / casein that is present in milk. It turns out that the imported breed of cattle is beta casein A1A2 heterozygote for gene to find the two alleles co-dominant in sixth chromosome. From tests conducted on milk from Busha cows type A2 milk is found that the relation between the type of milk consumed and mortality from ischemic diseases. Conservation program and sustainable economic use of these local cattle are the main objective of this study.

Natural conditions have led to the development of the province's economy to be driven by animal products, which meet most of the needs for human living. Goats, sheep and cows occupy the main place in the livestock area. Documents of the 17th century, (Gasper Sh. Hylli Drites , 1931, p. 439) show that villages Nikaj - Merturi, "had animal herds of abundance." These animal herds provided dairy product, the staple food of the human populations as well as wool, leather used for clothing, bedding (sheep skin for bedding), carpets, (goat wool carpet), etc. The significant decline in the number of animal heads is the result of:

- Removal of the human population from extremely isolated areas;
- Lack of infrastructure for processing and marketing of livestock products;
- The decline of youth interest for livestock farming,
- Lack of policies for the preservation and development of genetic resources

Conservation, management and sustainable economic use of indigenous farm animal genetic resources is one of the strategic priorities of the national action plan on which future living of human communities and development of areas where these resources are found will depend. But we must emphasize that these unique resources for the value that they carry, ave the risk of extinction if measures are taken to prevent genetic erosion that they are suffering. Given this situation, undertaking research aimed at identifying the size of this bovine population and to take necessary actions to in-situ conservation in order not only to lower the number of cattle but the design and implementation of an in-situ conservation program with order management and sustainable economic use of this population.

Farmers in this area chose improved livestock breeds suited to the natural conditions of the area. Dairy products like milk, meat, cheese, butter, cream, curd, etc., have very good quality and high nutritional value. Traditional and very well-liked by tourists is maza prepared from milk cream and butter. Farmers in mountains, in fierce battle with the nature, have managed to create agricultural life conditions being not only livestock producers but also good farmers.



Currently the necessary infrastructure for processing milk products or by-products does not exist in this area. Farmers elaborate in traditional terms (house), cheese, yogurt, curd, butter. Specific and quality maize area. Farmers are not organized in any type of organization. These are challenges that must be confronted together for undertaking future projects so that specific products of the area where Busha cow breeding are commercialized to take the saved value added by the community living in these impoverished areas of limited but quite picturesque and healthy mountains.

For this reason, institutions like Agricultural Technologies Transfer Center in Fushe Kruje for implementing national action plan activities for indigenous genetic resources exist. Through this study, we were able to sensitize the farming community in the area for positive values attached to these genetic resources and to feel closer to the interests of State institutions for their development in terms of increasing economic income in their families. Farmers are interested to process their products and then to certify them, but they do not have financial possibilities. It is up to the public and nongovernmental institutions to support projects and urban consumer awareness for the specific values that carry these products and byproducts in Lekbibaj- Tropoje area.

THE CONSERVATION OF THE ILLYRIC CATTLE, IN PRACTICE

The aim of the study was conservation and implementation of several interventions of elements of farming technologies for population of Busha cattle in the area. Cattle breeding in this area constitutes the main agricultural activity and it is directly related to the livelihood of the population in these areas. Through monitoring of phenotypic indicators in population we have created a clear picture of the existence of the population in this area, and we carried out a comparison with the data of other authors carried out 60 years ago. At the same time, we handed over our arguments for the indigenous population in the area. The social and economical situations of farmers involved in our innovations were greatly improved by improving the structures of the feed ration to cattle through a new way of management focusing on an increase of the lactation productivity of cattle, improving the nutrition of the population with animal protein in the daily ration, and increase of milk quality enhances the level of nutrition of the population in this extremely limited area and with harsh climate.

Through the selection of male and female calves that will be used for parental generation, we consolidate a vital generation, productive heifer and bulls to be used in natural breeding.

The evaluation and processing of all data collected in connection with different features values morph - biometrics, conformations, productive and reproductive performances. As a rule, the individual measurements are carried out morph-biometric measurements for some cows, calves, male and female calves. Daily milk production was monitored and about 4 milk samples for each cow were taken. 60 milk samples were analyzed with Lactostar method for determining the constituent milk components. We performed weighing method with tape meter, and the data are processed with statistical methods. All natural services are registered (data), bulls, calving (data) and on this basis reproductive performances were processed. We compiled for feed rations for all categories in cattle, depending on the physiological stage according to methodology.

The methodology adopted for the development of our innovation was subdivided in four phases distinguishing an investigation step done in the field and an experimental step. The developed method in the scheme below is summarized with a comparison with the methodology present before our intervention.

<i>Phases of the study</i>	<i>Traditional Method</i>	<i>Appropriate methods (conservation of indigenous genetic resources development)</i>	<i>Differences/Results</i>
Phase I	Completely missing identification	Placed to identify: Established documentation Milk production (sampling) Registration of date of natural breeding and date of calving . Measuring indicators of morph – biometrics.	Results 600 head of cattle, Milk production identified Identify the number of natural breeding Identifies the local population cattle.
Phase II	Lack of monitoring for each performance	Monitoring milk production in lactation Monitoring natural breeding , calving. Monitoring the quality of milk (% protein,% fat,% lactose) Monitoring daily gain of calves.	You probably will be calculated productive performances Plans natural services and calving Plans quantity of milk by-products Plans age , weight first calving.
Phase III	Traditional methods of bovine growth. Grows for the replacer male and female calves by traditional methods Pronounced seasonal natural breeding Traditional feeding	Selection of male calves, as measured conformation. Selection of female calves as measured conformation Advisory controlled pairings (bulls, heifers, cows) Improving level of nutrition depending on physiological stages	Parental generation produced to guide selection method Production of vital generations and more productivity. Ration supplementation depending on physiological stages Utilization of natural resources for effectiveness of the product
Phase IV		Evaluation Data Processing	Conclusions and recommendations

RESULTS

Premise

As first step of innovation was considered the identification of the population, characterizing phenotypic population of cattle “ Busha” Lekbibaj area, and the monitoring of productive and reproductive performances of their populations. In Table 3 are shown the comparative data for the cow Busha in several countries in the Balkans.

No	Performance	Unit	Albanian Alps Nikaj-Mërtur	Monte Negro	Kroaci	Bosnje	Rodopi
1.	Height wither	cm	127.7	99.3	114	104	97.4
2.	Length of body	cm		114	130.4	117.9	111.23
3.	Length of head	cm	45.1	41.8	42.1	39.9	39.72
4.	Width of the forehead	cm	21.2	19.3	18.4	18.4	18.8
5.	Length of horns	cm	28.9	20.2	23.6	23.6	15.5

Tab. 3

By comparing some morphological indicators of cow Busha, in the Balkans, we see no significant changes (III annual meeting of ALBA-SCIENCE Institute, National Conference, Tirana 1 to 3 September 2008) (Table 3). By comparing the values given above, the corresponding average values of these indices published by different authors, we find that local beef Albania, according Tartari, T. (1965), is very close to other cattle cranially type brachycerous . Albanian cattle hypothesis as regards this type is more likely to be true. In Table 4 are reported the comparative data for local cattle in Albania (Illyria Dwarf Cattle).

As seen from the table 4 and between regions within Albania (Table 3) there are no significant changes in phenotypic and productive indicators. Busha cattle has short body, strong skeleton, buttock narrow and undeveloped udder. Large head, developed mandibles, eye orbit developed. Mantle color of reddish brown or light brown, with gray shade. Short horns back before the high, thin and pointed. Bleached white lips and extremities, black vulva.

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N0.	Name	Nikaj - Mërtur M - F	Sinanaj M - F	Prespa M - F
1.	Weight at birth	18 - 15	14 - 13	18 - 15
2.	Live weight	280 - 210	250 - 200	280 - 230
3.	Height wither	135 - 120	125 - 100	125 - 105
4.	Milk produc. /lactation	Lact. I 700-800 kg Lact. III 1300-1400 kg	Lact I 800 Lact.III 1000	Lact I 800 Lact. III 1200
5.	Average day lactation	270 -300 ditë	280 ditë	300 ditë
6.	Age at first calving	21-23 muaj	850 ditë	850 ditë
7.	Weight at first calving	105-115 kg	100 kg.	110 kg.
8.	% Fertility	80-85	85	85

Tab. 4

Table 5 shows the phenotypic performances of Busha cattle.

Performance	Male	Female
Weight at birth	18kg	15 kg
Live weight	200-300 kg	200-220 kg
Height wither	125-135 cm	110-120 cm
Milk product. /lactation	* Lac. I 700-800 kg * Lac. III 1300-1400 kg	
Average day lactation	270 -300	
Age at first calving	21-23 month	
Weight at first calving	105-115 kg	
% Fertility	80-85	
Calving Interval	337 day	

Tab. 5



Table 6 shows the phenotypic measurements carried out during the study period by study group (2008-2011).

<i>Morphology performance (Busha type) Nikaj –Mërtur - TROPOJE</i>						
No.	Name	Unit	Head length	Width Forehead	Length Horns	Height wither
1	"Busha" (red)	cm	44.6	20.2	26.2	125.8
2	"Busha" (red)	cm	46.5	21.3	33.4	130.2
3	"Busha" (red)	cm	42.8	20.4	25.3	124.5
4	"Busha" (red)	cm	45.4	21.6	26.2	127.2
5	"Busha" (red)	cm	42.3	20.5	25.3	126.3
6	"Busha" (black)	cm	45.6	22.3	28.4	126.2
7	"Busha" (black)	cm	43.4	21.2	27.5	127.3
8	"Busha" (red)	cm	44.7	20.4	26.4	128.2
9	"Busha" (red)	cm	43.6	21.2	25.8	126.4
10	"Busha" (mid-brown)	cm	46.8	22.3	32.4	128.5
11	"Busha" (mid-brown)	cm	45.7	21.7	27.7	127.3
12	"Busha" (red)	cm	44.3	21.3	26.4	126.2
13	"Busha" (gray-brown)	cm	46.6	21.6	32.8	128.3
14	"Busha" (gray-brown)	cm	46.8	21.7	33.4	130.2
15	"Busha" (gray-brown)	cm	45.6	21.3	31.5	129.1
16	"Busha" (gray-brown)	cm	45.4	21.2	30.2	128.4
17	"Busha" (gray-brown)	cm	46.3	21.4	32.6	130.5
I	X± SD	cm	45.1±1.4	21.2±0.6	28.9±3.1	127.7±1.7
II	No/cows	nr	17	17	17	17
III	Max	cm	46.8	22.3	33.4	130.5
IV	Min	cm	42.3	20.2	25.3	124.5

Tab. 6

Animal Nutrition and Food

Due to the conditions created by the rain and especially snow and low temperatures that are present from the beginning of November until mid-April, so about 6 months, the cows are kept in housing regime. Foods used during this period, are provided during the summer and fall. Foods that are used are: hay lolium , lucerne grass, corn straw, bean straw, corn and concentrates (milled corn). During this period, fresh food and silage are not used much. Basic food during winter is hay meadows. Alfalfa grass is used very little because sufficient land area is used for corn, vegetables, potatoes, etc. Hay provided by mountain meadows and farmers have a great tradition in the preparation of the grass that is cut down in June in the borders and at the end of June beginning of July in mountain meadows. Hay has a high nutritive value (0.54 NjU Kg). Content of hay consists of graminace

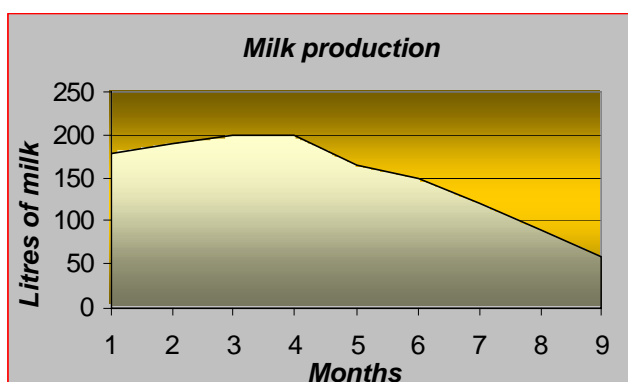
No.	Food	Kg.	NJ.U	Dry mater	Prot.
1.	Hay	4	2.16	87	15
2.	Maize (straw, corn)	6	1.26	86	8
3.	Supplemented conc.	1.5	1.65	88	07

Tab. 7

48.5%, legumes 23:36% and 28.13% other species. In table 7 is shown the feed rations per cow (November –April). In mid-April, and during the months of May, September and October as the main food in the daily ration for cows are grazing near homes which uses land plants grass and leaves of plants in areas of

oak scrub, During this period, dairy cows are given in the morning 0.5 - 0.7 kg. Concentrates as a supplement . During (June – August), the cows kept in the mountains (alpine meadows) 1000 - 1800 m above sea level. High diversity of habitats Alpine area, with diversity of vegetation, water resources and mountainous suitable climate creates more favorable conditions for the breeding of cows Busha in this period. She adapted well to these conditions using the best ones to give farmers dairy products, meat, by-products good quality. Pastures in the area being heterogeneous, containing all the necessary food elements for body maintenance and milk production, etc..

Milk Production



The conducted study shows that average milk production for lactation (n = 30) is 1355 liters. Production from first lactation 700-800 kg results in an increase in third lactation 1300-1400 kg. The average duration of lactation 9.7 months. Fresh milk is consumed and part of it goes to the production of by-products. This product is intended for self consumption after missing sales market. But we can say that these products are bio quality as produced in completely natural conditions. In Figure on the Left is reported the milk production per lactation.

The study of lactation curve shows that average lactation curve is typical in height, stability and termination. Evaluated the milk quality samples taken according to

the methodology and to analyze its qualitative indicators. Milk samples were taken and analyzed by the method LactoStar for determination of milk components.(lab, ATTC Fushe kruje.) Indicators were analyzed: % fat, % protein, % lactose, % dry material without fat (L.thY). Quality components of cow milk in Busha Nikaj – Mertur area, Tropojë are reported in table 8.

Milk samples were analyzed by electrophoresis method in acidic conditions for the type of beta / casein present in the milk. (Laknori & Rexha, 2008). The difference between the A1 and the A2 milk - Beta-Casein in cow milk protein predominates in two forms A1 and A2. One liter of milk contains 15 grams of beta-casein. The difference between the A1 and the A2 milk consists of a very small margin of beta-casein. In both these types of beta-casein milk containing respectively 209 amino acids and the difference between them is only one amino acid. Thus, while the A1 protein at position 67 contains the amino acid histidine, but A2 contains proline. It is known that BCM 7 is a powerful opia (acts similarly with morphine). In many people this rupture occurs in the intestines and does not lead to problems of opioid nature, but in some individuals BCM 7 can pass into the bloodstream and harm. There is evidence that it oxidizes LDL and is associated with heart disease. Epidemiologic evidence suggests that consumption of beta-casein A1 by humans is associated with the level of mortality from ischemic heart disease. Tests show that Busha cow milk is A2 type milk.

Indicators	% Fat	% Protein	% Lactose	* % DM F.
$\bar{X} \pm DS$	3.3 ± 0.60	3.8 ± 0.08	5.5 ± 0.10	10.1 ± 0.20

(*) % Non-fat dry Mater

Tab. 8

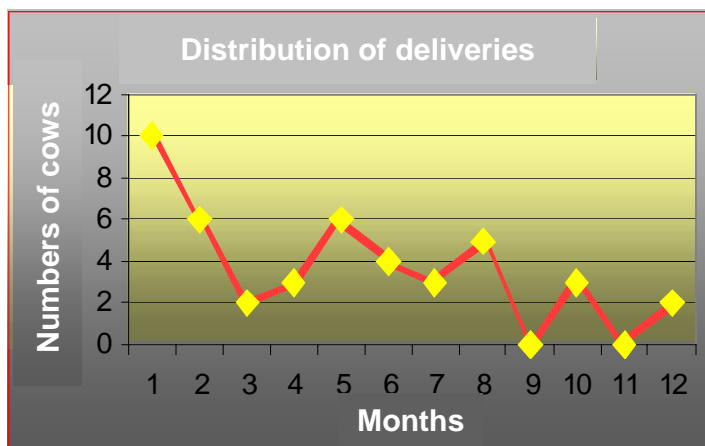
Meat production



Produced meat has high nutritional value organoleptic and dietary supplements, the pasture of calves used for meat, is both voluminous food moist and concentrated. In addition to pasture vegetation polifite, an important role is played and the sun, the air and the movement of animals, especially in the digestion of food and weight gain. This makes it possible for animals to be affected less by infectious and parasitic diseases. These features make the production of meat safe for consumption. For meat production, used male and a female calves that are not replacers. Reared calves combined system (milk, pasture) where the base of the food portion is feeding with milk straight from the cow. Average weight of born calves is about 15-18 kg or almost 12 times easier than their mothers. Daily/gain reach 700 gr / day, when placed on pasture suitable for physiological stage. Selling calves at a young age (3 - 4 months) and small weight, negatively affects household income of farmers. Valorization of this product is one of the challenges to development in this area.

Reproduction

Reproduction is a key factor in determining the efficiency of animal production. Reproductive efficiency can be described as a measure of the ability of cows to be pregnant and produce calves. A cow will start to produce effectively after calving and milk production will eventually be reduced if this cow did not calve again. Busha cow reaches sexual maturity later than cultivated cows and therefore conformation development. Also young male arrive late sexual maturity. First heat appear around 14 months and natural breeding occurred about 14-15 months weighing 160-180 kg. Cows Reproduction achieved through natural mating. Bulls are produced within herds for natural mating. On average calving interval results in 337 days then be achieved 1 calf per year (technical objective). Calving interval-conception turns 47 days. Mating bulls rotated every year to avoid inbreeding. Generally cows used until the fifth calving. As can be seen from the graph, we seasonality pointed out that the increase of the period from January to March identify natural breeding committed during the period from April to July and the increase from September to December period corresponds copulations conducted from December to March. This seasonality is conditioned by nutrition and the development of vegetation in natural pastures. In Figure above is shown the distribution of calvings.



Evaluation

During the study period we participate in activities divulgative as seminars, oral presentation to national and international conferences, publications. Were conducted three presentations held 1-3 / 09/2008, the Third Annual Meeting of the Institute Albshkenca in Tirana, 11-14 / 09/2008, International Work-Shoop, to Pogradec and 29/09/2008 with the occasion of the European day Agrobiodiversitetit in Shkoder, Alb-Science 2010, etc. Over 3 references of publications in international conferences were conducted:

- Oral presentation "The current situation of the local cattle breed in Albania" XIII Workshop, August 2007, Dublin - Ireland.
- Oral presentation "Albania Local Cattle I" International Conference, Croatia November 2007.

- International Workshop presentation "European Livestock Breeds Ark and rescues Net (ELBAR) - Blagoevgrad, Bulgaria, 7-10 May 2009." Albanian Animal Genetic Resources "(M. Petushi, A. Doko, F. Alexander (Sulaj)).
- The impact of Albanian local bovine races as part of conservation biodiversity in the ischemic heart diseases in humans. Laknori O, Rexha T, Leka (Sulaj) Fatmira, Mitre A, Hamzaraj E, Papparisto A. IV International Symposium of Ecologists of Montenegro – 06-10. 10. 2010 Budva, Montenegro.
- Oral presentation "The current situation of cattle Illyric Dwarf cattle (Type Busha) - in Lekbibaj-Albania and sustainable conservation strategies", Leka (Sulaj) F1, L1 Dedndreaj, Laknori O2. Topi H1 International Symposium "Biodiversity and sustainable use key factor for sustainable rural development." 22. 10. 2010, Tirana

INTERNATIONAL INTEREST

The results of the first study of this genetic fund in Albania, have attracted the common attention and interest of other scientific achievements and as a real factor for the development of biodiversity (regional cooperation crosborder).

Conservation of tradition on the one hand, and the development of infrastructure on the other hand constitute future challenges to mountain tourism approach towards development and improving of life quality. Valorization of living must necessarily pass by the valorization of Biological products quite acceptable - quality livestock grown and cultivated in a natural environment. Will natural beauty, remain where it is or it will become a surprise with added value, with culinary traditions of hospitality made available to attract visitors, tourists, through a suitable infrastructure, not just roads but also marketing specific livestock product.

TO KNOW MORE

A specific brochure "Albania's local Bovine ". 2007 (Kume, Altria et) is suggested.

Directed to experts of the sector, here follow some historic papers that help to know how the situation of livestock of cattle in Albania was.

- Gasperi, Sh. Hylli Drites, 1931 Fq. 149.
- Comparative data morph- biometric (Tartari, T. 1965).
- Comparative data. morph- biometric (Kuhneman, A. 1922)

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The Livestock Technologies Directorate Agriculture Technology Transfer Centre of Fushe Kruja is available to provide technical support and innovation transfer to the interested countries. In order to establish collaborations, contact:

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