


Improvement of Reproductive and Productive Performance of Indigenous Bovine <i>Preliminary Note</i>			Veterinary Medicine Keywords: artificial insemination, yellow body, estrus, Prostaglandine, ultrasound.
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Abstract			
<p>The authors of this study experimented the increase opportunity of reproductive and production skills, through the crucifixion of cultivated breeds in Albania with cultivated breed in Italy. Changing social system in Albania brought the overall need of transformation. Market wants more dairy products like milk and meat. For this is required prestigious cows breed and scientific management. The study was conducted in the Farm of Economy Didactic in Agricultural University of Tirana and the farmers who keep cows for family needs. In the first phase of the study were included 42 heads of cows breed cultivated in our country. 8 Holstein cows (19%) 4-5 years old, 12 Jersey cows, (29%) 3-6 years old and 22 crossbreed cows (52%) 3-10 years old. Cows were inseminated with Pezzata Rossa Friulana breed sperm, which is known for high milk production and meat. All cows in the experiment have undergone clinical examination (rectal and ultrasounds control) for assessing of the physiological status especially for the presence of yellow active body. Cows are treated with a dose of PGF2α, 20 mg / cow (Estrumate ©) I.M. injections. The artificial insemination is realized after the estrus manifestation (52 \pm 4 hours after the treatment with Prostaglandin). In the farmers cows the pregnancy diagnosis of is realized through rectal control 45-55 days after artificial insemination. While for 8 cow Holstein breed (Didactic of Economics University) is used ultrasound method for diagnosis of pregnancy 30 days after IA (Aloka SSD 500 Micrus). According to the above controls results that from 42 inseminated cows 33 cows or (78.8%) were pregnant diagnosed (rectal + ultrasounds control) and 9 cows or (22.2%) have returned at regular intervals (20 \pm 2.1 days) after the insemination. We estimate that the percentage of fertilization with the first insemination is high. For further results as, fertility, weight of the newborns and the addition of weight until to slaughter will be published in soon.</p>			

1. Introduction

Agro-Livestock System in Albania

Actually only about 50% of the 699,000 who did constitute the entire Albanian agricultural land is actually exploited for agro-livestock purposes. Of this, only about 7% of the surface is a very productive land, 45% is constituted of land of average productivity and the remaining 48% is represented mainly by hilly regions, and low productivity capacity.

Albanian agricultural area is rather small and most fertile lands (western Albania), sometimes are even not cultivated because of the high emigration rate, increasing urbanization and lack of political support from the government (Civici A, 1988).

Moreover, the lack of reforestation is likely to lead to degradation in many rural areas (Civici A, 1988; Istituto Nazionale per il Commercio Estero, Il settore agrozootecnico e la sicurezza dei prodotti agro-alimentari, 2004; MoAF, 2003; MoAF, 2008).

Corporate structure, consistency and animal production

The period immediately following the privatization of land (1991) was characterized by a system of agricultural production which relied almost exclusively on small family farms that gave about 90% of the total labor requirement. The abundance of farms from 1995 to 2002 showed a negative trend with a reduction of more than 8% cases, in this one, which may in future cause the shift of rural population to cities (MoAF, 2003).

Albanian agriculture is characterized by small size and the characteristic of being, almost all, all "family farms". In a report from the Ministry of Agriculture and Forestry in Albania (MoAF, 2003) shows that the total number of farms and livestock farmers was 357,533 units and that they had an average size of about 1.2, ie well below average Italian (6 ha) and European (17 ha). A recent publication of the Ministry of Agriculture, Food and Consumer Protection of the Republic of Albania on 2007 (MoAF, 2003) shows that the total number of farms is about 370 thousand whose average size is about 1:14 ha. The breeding of cattle, and not only showed a significant decrease, because, according to data MoAF in 2003, 83, 2% of farms breed cattle's, while the final report Ministry of Agriculture, Food and Protection Consumers in the Republic of Albania, the percentage had fallen to 55% (Civici A, 19885; MoAF, 2003). These figures confirm a downward trend since 1996, including sheep, goats and horses.

Tab. Nr. 1. Average data of breeds and cross bred.

Breed	Aptitude		Geographic spread	Livestock farming		Values average milk		Values average meat		
	L	C		Recovery	Food	(kg/head/year)	capacity Cheese Yield	Precocious	Rate %	Increase gr/die
Holstain	X		Lushnje, Fier, Berat, Durres; Shkodra	L	M	5000	G=4% , P=3,3%	H	54	700
Jersey	X		Shkodra, Elbasan, Durres, Leja	L	M	3400	G=5,1-6%; P=4,5%	H	48	500
Simmental	X	X	Lushnje, Leja, Fier, Tirana, Korca	L	M	4500	G=3,6%, P=3,1%	M	58	900
Tarantais	X	X	Korca, Dibre, Pogradec Elbasan	L	M	3300	G=3,6%, P=3,1%	M	60	700

Bruna Alpina	X	X	All Albania	L	M	4000	G=4,1 %, P=3,4%	M	60	800
NRF	X	X	All Albania	L	M	4000	G=3,6 %; P=3,2%	M	54	900
Oberintal	X	X	All Albania	L	M	3000	G=3,8 %, P=3,2%	M	60	900
Limousine		X	All Albania	L	M			L	69	940
Charolais		X	All Albania	L	M			L	69	1400
Blu Belga		X	All Albania	L	M			L	60	1200

Personal elaborated data, IKZ Tirana, 2004

H-M-l = (High, Medium, Low)

Stock-farming

During the year 2003, 52.8% of the meat produced in Albania derived from bovine animals, 30.8% derived from goats, 6.5% from the avian species, and the remaining 9.7%, from pork.

The importation of livestock, in general terms, has increased significantly from 23,313.00 € in 2000 to 59,231.00 € in 2007. Regarding the production of milk, 85% is produced by cow, 7.6% from goat, and the remaining 6.9% is produced by sheep (MoAF, 2003; MoAF, 2008).

The most common breeds are the Holstein and Jersey, in small farms outweigh type junctions (dual attitude breeds - production of meat and milk). Only as a crossbreed, there are breeds like Limousine, Charolais and Belgian Blue, which are imported into Albania just as the seed (see Table).

Only in Albania, due to the high costs of food, the time of slaughter of calves occurs when they have only three months old and an average weight of 120-160 kg. Looking this peculiarity, it was the choice to import in 2004, following an agreement sponsored by the Ministry of Productive Activities, the Marche Region and the Ministry of Agriculture and Food of Albania, in the Municipality of CERM, District of Lushnje, Prefecture of Fier, 20 pregnant heifers of the bred (MoAF, 2008).

2. Material and methods

Our initial intention was to check whether the choice of Marchigiana breed had proved relevant to the needs of the Albanian agro-livestock economy and to make, if possible, remedial systems and/or integrated as, for example, the intersection of race raised more frequently in Albania or other races derived from crossing with Pezzata Rossa Friulana breed bulls with greater attitude towards the production of meat (Marini L, *et al*, 2005). However, as a result of intervening events, we found it impossible, virtually, to find reliable data in respect to the breed of the Marchigiana breed cattle. During this first phase of the trial we tried to collect the data of the livestock activities carried out generally in the rearing farm of CERM.

This latter situation that has occurred would result near failure. In fact, from an initial situation where there were all the project partners, has gradually moved on to unilateral manage that deteriorates not only the structures but also of genes. Was therefore not possible to acquire any data on reproduction (fertility and prolificacy) as well as livestock (increase in daily weight, slaughter yield, etc.).

In view of this, we decided to compare reproductive and livestock parameters derivate from traditional Albanian farmer with those who, in time of physiological experiments, derived from holdings of subjects obtained from the crossing of 2 breeds reared in Albania with 2 Pezzata Rossa Friulana bulls bred and half-breed subjects, always subject to the above crossbreed with the bulls (INSTAT – IKZ, 2004).

The trial, in this first phase, began March 15 and ended May 25 and 42 bovine examined divided as follows: 8 subjects of Holstein BREED (19%) including 2 steers (18 months) and 6 adults aged between 4 and 5 years are kept at the stable property of the Faculty of Veterinary Medicine, University of Tirana.

12 Jersey breed cows (29%) aged between 3 and 6 years and kept in private households, 22 individuals derived from crosses (52%) with different breeds, aged between 3 and 10 years and also raised by individuals in 'the immediate vicinity of the Faculty of Veterinary Medicine.

Those belonging to the Faculty of Veterinary Medicine were maintained at pasture and brought to the fixed housing only for 2 milking days and during the rainy winter days (Istituto Nazionale per il Commercio Estero, Il settore agrozootecnico e la sicurezza dei prodotti agro-alimentari, 2004).

The food, irrespective of physiological conditions, was formed on all subjects by pasture, hay and crude wheat flour and mais. The average milk production was: 25 l/day for those of Holstein breed, 15 l/day for those of bred Jersey and about 10 l/day for crossings breed. All the cows were clinically surveyed (rectal examination and ultrasound) to determine the physiological state; diagnosed as not pregnant and determined the presence of an active corpus luteum, to all 42 subjects was administered one dose of PGF₂ α (20 mg/cow i.m.) meat (INSTAT – IKZ, 2004; Istituto Nazionale per il Commercio Estero, Il settore agrozootecnico e la sicurezza dei prodotti agro-alimentari, 2004). Artificial Insemination was performed after detection of estrus using frozen semen. The semen was collected from 2 bulls of Pezzata Rossa Friulana breed (“Centro Tori Moruzzo- Udine”- Associazione Allevatori del Friuli Venezia-Giulia, Italia). In the 32 outsider’s subject, the diagnosis of pregnancy was performed only by a clinical method (rectal examination) between the 45th and 55th day from the A.I.; in 8 Holstein cows of the kept at the stable of the Faculty of Veterinary Medicine, was performed at the 30th day after A.I. also an ultrasound diagnosis using an Aloka machine model SSD 500 Micrus.

3. Results and discussion

All 42 subjects were inseminated using 1 dose per animal, of which 9 (22.2%) had subsequent return to estrus and were inseminated further, while 33 (78.8%) were pregnant at ultrasound and clinical diagnosis, respectively at 30 ° and 45 ° - 55 days from IA. The trial, in relation to physiological time will continue for about 3 years when can be obtained reliable data about the parameters for the livestock-production (weight gain and yield at slaughter).

4. Conclusions

The use of PGF₂A, 20 mg/cow (Estrumate ®) i.m. Injections improves the fertility indicators. Ultrasound diagnosis is an efficacy method of cow’s pregnancy. In our country conditions it is still an experimental study. The pregnancy diagnosis through rectal control actually is the most useful method in breeding cow’s farms.

References

1. Civici A.: La questione fondiaria e la ristrutturazione dell'economia agricola, in Options Mediterranèennes – Albania un'agricoltura in transizione, 1998, Serie B: N.15, Bari.
2. INSTAT - IKZ. People and Work in Albania, Tirana, 2004.
3. Istituto Nazionale per il Commercio Estero, Il settore agrozootecnico e la sicurezza dei prodotti agro-alimentari, 2004 – Albania.
4. Marini L, Albanesi E. Progetto pilota per l'introduzione della razza bovina Marchigiana in Albania: primi risultati, 4th World Italian Beef Cattle Congress, Italy, April 29th – May 1th 2005.
5. MoAF 2003. Statistical yearbook, Direzione di Statistica, Tirana.
6. MoAF&P 2008. Albanian Agriculture in Figures 2007, Tirana, September 2008.