

## CATTLE AND SMALL RUMINANT BREEDING ACTIVITIES IN TURKEY

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### Abstract

*In recent years, due to the increasing global warming, food security is one of the world's biggest problems. Each country is willing to take under guarantee the safety of their food in order to feed the population. In order to realize this strategy, rather than increasing the number of animals in production to increase yield obtained per animal. The most effective and accurate way to increase productivity per animal is breeding. Breeding success depends on agricultural policies applied, in addition to the objectives to be accomplished.*

*Breeding activities started with the republic in Turkey, but could not achieve the desired success. Herd book records belongs to species are collected by the cattle, sheep and goat breeders associations. Type of pedigree cattle records history dates back to 1995. Projects carried out jointly by Turkey, Germany and Italy began pedigree studies resulted in the establishment of Cattle Breeders' Association. By means of this associations, breeding activities have gained momentum and National Breeding Program was started in 1999, Cattle Breeders' Association of Turkey, in partnership with the Ministry of Food, Agriculture and Livestock. In this program, pre-herdbook and herdbook records are kept by the Association and, Progeny Testing System are applied in conditions of the country.*

*Organizational model in small ruminants are applied similar to cattle, however keeping herdbook records and breeding activities are implemented at the beginning stage yet.*

*In this study, animal breeding applications in Turkey are evaluated generally.*

**Key words:** Breeding, Cattle, Small Ruminant, Turkey.

The presence of animals in Turkey over the years (Table 1) except the cattle for the last twenty years appears to be a significant reduction. The presence of cattle increased by 9% in terms of by the year in 1990, 38% in the

presence of sheep and goat decreased by 34%. During this period the most dramatic reduction occurred in number of buffalo presence by 74%.

Table 1. The presence of animals in Turkey over the years, (1000 head)

Years	Cattle	Sheep	Goat	Buffalo
1990	11377	40553	10977	371
1995	11789	33791	9111	255
2000	10761	28492	7201	146
2005	10526	25304	6517	105
2009	10724	21750	5128	87
2010	11370	23090	6293	85
2011	12386	25032	7278	98

Milk and red meat production in Turkey over the years on the basis of species presented in Table 2. Milk production has increased by 56% in the last twenty years. Share of cattle milk

production increased up to 92%. Increase in milk production in dairy cattle in favor of the public sector can be said that the effect of its policies.

Table 2. Red meat and milk production in Turkey over the years

Years	MILK (1000 ton)					RED MEAT (TON)				
	Cattle	Sheep	Goat	Buffalo	Total	Cattle	Sheep	Goat	Other	Total
1990	7961	1145	338	174	9617	329	144	23	12	507
1995	9275	934	277	115	10602	292	102	14	7	415
2000	8732	774	220	67	9794	355	111	21	4	491
2005	10026	790	254	38	11108	322	74	12	2	409
2009	11583	734	192	32	12542	325	75	12	1	413
2010	12419	817	273	35	13544	619	136	23	3	781
2011	13802	893	321	40	15056	645	107	23	2	777

The red meat production tend to decrease until 2010, while increased last two years due to the imports of animals for slaughtering. However, short-term solutions for the production of red meat can not be considered ensured continuity. In Turkey, the vast majority of red meat are provided by dairy herds. Therefore, the problems experienced in the production of milk and milk price fluctuations affect the red meat production in same period. In recent years, although there have been imported the breeding beef-breeds, it needs long-term solution by the Ministry.

Breeding studies in Turkey are seen based on initially appears to be generally short-term solutions. However, adequate and balanced feed of the people of the country are required to meet and milk, the only way of satisfying the growing demand in the future, consistent with the applicable government policy, and a recording system that can be integrated multidisciplinary studies of genetic and environmental breeding. In recent years, breeding studies has focused on this awareness. Stages of a breeding program consists of phases identification of purpose, collection and recording of data, estimating of population parameters, breeding value estimation, selection of high-yielding animals and mating. Each stage is very important for the success of animal breeding studies. International Committee for Animal Recording in the international arena (ICAR) has established a set of standards relating to determination of yields and evaluation of the data obtained and the recording of animals all over the world. Cattle Breeders' Association is only a member of this organization in Turkey.

### Cattle Breeding in Turkey

The first years of the republic in Turkey, on the one hand, the culture breeds imported from abroad and the existing native breeds was crossbred, on the other hand imported culture breeds were grown as pure-breeds. These activities continued for many years, but could not achieve the desired success in producing animal breeding and breeding. One of the most important reasons is the lack of a consistent policy of livestock and keep away the breeders who are responsible for the production. However, The Breeders' Associations and recording systems carried out by these organization play an important role in breeding studies when the breeding background took place in developed countries are examined.

The first step in this regard in the field of dairy cattle issued by the Ministry of Agriculture in 1966 'Instruction on Registration of Holstein Friesian cow' and although the first serious studies began to projects carried out jointly by Italy and Germany by the years in 1989 and 1990. Both projects aim to create a registration system in Turkey in the field of cattle breeders' associations and the establishment of this system is to carry out.

In fact, with the changing in the current law has given the opportunity to breeders to establish The Breeding Associations for breeding purposes in 1995. Thus, Provincial Cattle Breeders' Association began to be established since 1995, and Cattle Breeders' Association of Turkey was established. 1998. Then the studies gained momentum after the establishment of the Association and Ministry of Agriculture has implemented the National Breeding Program. The aim of the program Holstein breed a lactation (305 days) 7000

liters of milk with 4% fat that can mature at the age 145 cm rump height, reaching 750 kg live weight is solid and healthy, the body is expected to provide a high yield capacity, provide the ability to move freely foot and nail structure, convenient and easy to be milked milking machine, with a capacity of teat to achieve genotype and the population spread is defined as. In this context, Herdbook, Pre-herdbook and Progeny Testing Project is currently being carried out jointly with the Ministry. Established across the province have completed the organization of these units across the country today, operate in 81 cities. Duties of these associations are as follows;

- Tagging new-born calves,
- Identification of new farms
- Monthly milk yield records and milk metering audits,
- Milk sample collection and analysis,
- Records relating to calving, insemination and herd movement
- Classification according to conformation traits
- Breeding and nutrition counseling,
- Input supply (semen, earrings, milk meter bucket, insurance, equipment, etc.),
- Animal health and artificial insemination services
- Procurement and sale of breeding animals,
- Breeding cow show,
- Extension and Training services,

The number of farms joined to Cattle Breeders' Association which have completed the organization reach approximately 140 thousand in 81 provinces union across the country in cooperation with the National Breeding Program. Number of female cattle registered in herdbook is 3.3 million head and 4.2 million total number of cattle. In addition, the number of registered female cattle is 3.7 million head in 900.000 farms, the total number of cattle has reached 4.5 million head as well in pre-herdbook. The number of registered cattle is 8.735.000 head in more than one million farms. It is important of selection both cows and bulls in breeding studies, however, selection of males is placed on mostly due to their physiological properties. For this purpose, the progeny testing is applied all over the world. The semens are produced by bulls known daughters' performance through the country as

a result of Progeny Testing Project implemented in Turkey. While the quantity of milk can be measured only at the beginning of the project, in addition fat, protein, somatic cell count, lactose, etc. can be determined currently. Properties of milk yield as well as conformation traits features are identified and this information is published in the bull catalogs. In addition, breeding activities implemented only Holstein Friesian (Holstein Black and White) breed started for Simmental and Brown Swiss cattle in 2011. The milk yield per cows is 3000 kg in Turkey, while this value is 6000 kg in farms recorded herd book.

### **Sheep Breeding in Turkey**

In the traditional sense of the importance of sheep farming in Turkey, as well as the geographical conditions can not be ignored because of its compliance. In recent years, there has been a serious drop in the number of sheep, it has not been compensated for by an increase in productivity per animal and this situation has affected the production of meat and milk. The most important factor in this regard is the public policy concentrate on the cattle.

In Turkey, an important sheep breeding studies were conducted in the past. Initially, the main objective of improving the quality of wool called Merino activities were emphasized, however, desired success was not obtained due to insufficient environmental conditions affecting productivity.

In general, sheep breeding efforts are focused on the cross-breeding and breeding of native breeds in cooperation with the Ministry and the universities to work toward the creation of new types of sheep are held. But these studies were not applied in breeders level.

In recent years, it is aimed the organization like cattle breeders' associations for sheep breeding activities. Breeding Sheep and Goat Breeders' Association organized in 80 provinces in Turkey and 191.676 farms were registered.

Determination of Association's breeders to be involved "National Animal Breeding Project" applications in farming condition, selection and registration of herds, breeding programs carried out in a timely and taking all necessary records and data, regulating the relations between the Union and the Ministry, the Ministry deems appropriate qualifications the principles and

procedures for the acquisition of technical services of the Ministry 'published by the National Project Implementation Principles of Animal Breeding at village level were determined.

### **Goat Breeding in Turkey**

The Angora goat is named for Ankara and historically known as Angora producing the lustrous fiber known as mohair is differ from other goat breeds and should be evaluated separately in Turkey. Studies were carried out in order to increase the quantity and quality of the mohair in Ankara goat in some state owned Farms, however have not been successful in the field. As a result of reduced demand for mohair and prices of mohair falls rapidly decrease in the number of goats. So that at the beginning of the 1990's the number of Ankara goats over 1 million head in 2011 decreased to 151 thousand head.

Hair goats are grown mainly in forested and mountainous area. The rhetorical thoughts about the goats relating to damaging effects on the forest has the negative affect for goat farming, in particular the high nutritional value of goat milk also increased the importance of goats in recent years,

Legal regulations for sheep is current for goat and with two kinds of operations are carried out under the umbrella of the same union. National Animal Breeding Project in farming condition carried out in 31 provinces and 9 breeds.

### **CONCLUSIONS**

In Turkey, breeding facilities are only performed based on the cattle, sheep and goats breeding. However, studies mainly focused on

cattle. Cattle breeding program is conducted in partnership with the Public and Breeders Association and herdbook records to be used in breeding activities are kept regularly.

Recording are just new in sheep and goat species. For this reason, an established registration systems to fallow up the records are not available at the moment.

The Purebred Sheep and Goat Breeding Legislation" has inured in February of 2013. According to the legislation published the herdbook registration conditions, the necessary information for registration, breed-specific performance evaluation methods and criteria of these animals. The semen, ova, recording and documenting of every stage of the embryos rules belonging to breeding sheep and goats was determined. This legislation is expected to accelerate activities to be performed on small ruminants.

In addition to conventional breeding approaches as well as all over the world in the use of biotechnology based applications would be useful.

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