

An Investigation on the Water Buffalo Breeding in Danamandıra Village of Silivri District of İstanbul Province of Turkey

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This research were conducted on the present status of water buffalo breeders in Danamandıra village of Silivri district of İstanbul province. It is aimed to present a glance look on the status and clarify the problems of water buffalo breeders. It was also aimed to obtain general characteristics of water buffalo breeding in Türkiye using the results of questionnaire in this region sampled. Economic and social state of water buffalo breeders in the Danamandıra village and their problems' solutions investigated by direct interview with farmers.

Keywords : Water Buffalo, breeding of water buffalo, conduction of water buffalo's breeders.

İstanbul Silivri İlçesi Danamandıra Köyünde Manda Yetiştiriciliği Üzerine Bir Araştırma

Bu araştırma İstanbul ili Silivri ilçesine bağlı bulunan Danamandıra köyündeki manda yetiştiricileri üzerinde yapılmıştır. Araştırmada manda yetiştiren yetiştiricilerin ekonomik ve sosyal durumları, neden manda yetiştiriciliği yaptıkları, karşılaştıkları sorunlar belirlenmeye çalışılmıştır. Ayrıca yetiştiricilere sorulan sorular yardımı ile özelden genele giderek ülkemiz manda yetiştiriciliğine bir bakış sunulmuştur.

Anahtar kelimeler: Manda, manda yetiştiriciliği, manda yetiştiricilerinin durumu.

Introduction

Danamandıra named village has total population of 1188 people and consisted of 300 families. The village has 35 km distance to the Silivri district and 96 km to the İstanbul Province. The village's residents make money from animal production and forest products.

The village has 4600 (da) agricultural land and 3500 hectares forestland. There are two lakes in the territory of village. There are 170 students taking their education as of 130 in elementary school and 40 in high school. Mostly more adult even older people are dealing with farming. Young people of village population are hired by surrounding industrial area of İstanbul. Thousand and five hundred 1500 (da) lands are irrigated. The village has advantage with respect of rich water resources. General features of climates in

the village are harsh and long winter and warm summers.

Danamandıra village has equal distance (35 km) both Marmara and Blacksea. The name of Danamandıra has a meaning of Dana (Heifers) and Mandıra (small dairy plant) and reflects the historical background of village. The village has founded in 1893 by the immigrants coming from Bulgarian in 1893 Balkan War.

Material and Methods

Sixteen families dealing with water buffalo husbandry are determined from the village and subjected to question of inquiry conducted.

Water buffalo population in the world was 138 million head whose 97 % are in Asia Continent. Water buffalo were first domesticated in South and South East Asia as a farm animal during the

history of human beings (Kreul and Sarican, 1993).

Water buffalo were raised from very old times past in Turkiye especially as a source of meat, milk and draft power. Water buffaloes were very popular especially for their pull power in the forestry areas and very popular also for their milk fat cream traditionally suits for famous Turkish dessert.

According to FAO statistics due to industrialization the number of water buffaloes were decreased from 544,831 head (in 1985) to 164,000 head (in 2003). It was estimated 3,7 % of total milk production of Turkiye (5.334.000 ton) comes from water buffalo in 1980. Nowadays this situation decreased as 0,6 % as 63,327 tons of (in 2003) 9,495,550 tons of total milk production of Turkiye.

Turkiye had 284,663 head water buffalo (in 1995) and 11,418,000 head cattle. The percentage of water buffalo in total large animal population was 2,46 % in 2003. This rate had dropped to the point of 1,3 %. Water buffaloes were mainly concentrated rated in northern part of Turkiye. The Black Sea region was in the first place in the number of water buffaloes population.

Forty percent (40 %) of water buffalo populations of Turkiye were raised in Central Black Sea region (İzgi, 1992), second place with respect of the number of water buffalo was belong to East Anatolian Region. With in the Marmara Region the biggest share for water buffalo population placed in İstanbul and surrounding. The Aegean and Mediterranean area had lowest number of water buffaloes.

Turkish water buffaloes were also called Anatolian Water Buffalo is practically classified as a river water buffalo of Mediterranean Water Buffaloes group. Mediterranean water buffalo had a origin from Indian water buffaloes according to the data of Dellal

(1994). The number of chromosome of Anatolian water buffalo was 25 pair ($2n=50$) same as river buffaloes. Native Anatolian Water Buffalo breeds were originated from Mediterranean water buffaloes by the results of natural selection. The water buffaloes raised in Trakya region of North West of Turkiye located in South East of Europe has typically black hair and skin colour. They have typically half crescent shape horns directing to back neck. The horns were also big and deep black callow structure.

Results and Discussion

The sixty percent (60 %) of families has 4-5 members in their family. The thirteen percent (13 %) of family has 2 members in their family. The twenty seven percent (27%) of family has more than 5 people in their family. The 93 % of total village people had total (5 years) education, 7 % of total people has never take any education. The seventy nine percent (79 %) of family dealing with water buffalo raising had the age range between 18-60 years. The 12,5 and 8,5% of family had the age over 60 years old and below the 18 years old respectively.

The sixty eight percent (68 %) of total population inquired had only employed went in their farm. But 32 % of population had additionally employments outside farm at least their form for some members of their family.

There were no labour forces employed rather than family members in the inquired population. Half of population has only income from animal husbandry. The remained half had also additional incomes outside from animal husbandry such as forestry and other agricultural production. There were total 135 head mature water buffaloes, 30 head young water buffaloes including 10 head cows and 4 head heifers. Water buffalo raisers had average 8-20 (da) land. They

practised the forage cultivations. The forty seven percent (47 %) of farmer had tractor and remained fifty three percent (53 %) had not.

The main incomes for farmers were sourced from milk and milk products plus 25 % from meat production and 10 percent from forestry. Whole farmers stated there were no any support or subsidy from governmental source. Thirteen percent (13 %) of farmers were members of cooperative or association of farmers. But 87 % of them had no such membership. They had stated that no training for water buffalo husbandry had been given to them. The sixty percent (60 %) of farmers believed that number of water buffalo and popularity of raising water buffalo is decreasing. Farmers believe that water buffaloes are especially good for muddy water poolside swamp and riverside area and no other farm animals could be competitive with water buffalo in such areas. From the farm animal science point of view water buffaloes are very good for evaluating the poor quality forages and grassed which has no values for cattle. As a rising trend of consumer's demand popularity of water buffaloes meat and milk production has gaining more and more importance.

Danamandıra village had very good suitable for water buffalo as having many water sources and pools which available even in hot of summer. The village has also rich forest pasture sources. Experiments had shown that physiologically water buffaloes need always lake or lake like watery wet areas. Danamandıra village's environment has melt these conditions.

The farmers let their water buffaloes bring to the pasture in each days of year, except extremely harsh conditions. In the evening the village's herd comes back to the village. The lactating water buffaloes are kept in closed barns in the evening. The

remaining of herds was kept in simple constructed shelters in the evening. Usually herdsmen called shepherd as happened in most Asian country collect all the farmer's water buffalo in the village and bring them near by pasture. They were grassed in pasture together with cattle.

It's understood from the investigation that age at sexual puberty for male water buffalo was between 18-24 months. The bull water buffaloes were kept in the herd until 4-5 years of age. The first oestrus was observed 2,5-3 years old. Farmers had tendency to keep the water buffalo females until 10-15 years old.

It is recommended to obtain first birth in 34-36 month of age in water buffalo (Uslu, 1970). Barns for water buffaloes were mostly very simple constructed styles. The manures are removed manually. Its reported that gestation period and lactation period were 300-310 days and 6-10 months respectively. Calving had mostly occurred in summer and autumns (August- October). The open days period were observed as 110-200 days (Şekerden et.al, 2000). The twin rate was occurred very rare for water buffalo.

The water buffalo comes to heat periods shows symptoms such as jumping's to the others, sound of bellow and not escaping when mounted. Water buffaloes could be inseminated in first heat after birth. Cow water buffaloes could be used as breeding stock until 15-18 years of age (Düzgüneş, 1960).

The first heat after birth has occurred generally 40 days. There were no calving difficulties observed mostly no need for helping the calving. Placentas were realised 4-5 hours after birth (Kök, 1996).

Farmers declared the total gestation length as 310 days. Some

farmers stated male calves had 10 day long gestation period.

Farmers have declared that average birth weight for calves was varied according to the body size of pregnant female as 15-25 kg. Calving interval were recommends as calving in every 13-14 month period. .

The birth weights were also reported for males and females 31 kg and 29 kg respectively. The subsequent birth weights of calves in the same animals were increased (İzgi and Asker, 1988). On the other hand farmer had declared birth weights for male and females in the village were 31 kg and 29 kg respectively.

Farmers had observed that average yearling weight was 150-200 kg. The growth period was also continued in second years of age. The adult weights were varied 400-500 kg .The growth period lasted in 5 years age calves are kept with their mothers after birth. For the natural weaning it is estimated 240-260 litter milk suckled in the 90 days period of weaning. In some areas where water buffalo milk more priced then cow milk. Water buffaloes calves receive cow milk for the period of milk feeding (Uslu, 1970). It is practised to start to allocate two mammary quarter to the calves for weaning then gradually diminish to one quartet an the end of two month. As lactation behavioural point of view in the beginning suckling practised than milking has been conducted.

At the end of milking the teats are again subjected for suckling (Kök, 1996). There were no navel disinfections practised. The weaning periods some times prolonged as no milking at all but mostly lasted in 3-4 months. Calves could receive 2-5 litters of milk daily. It is recommend clean water should be available when they were 10-15 days of old. Generally female are kept as a breeding stock. Males are used for mostly

fattening and meat production. Good quality forages should supplied starting from one month of age (Kök, 1996). It is generally recommended than calves should receive milk amount of one tenth of their live weight also. It is declared that absolutely all colostrums has given to the newborn calves

Farmers had stated that they had practised total three month of weaning period. They ' ve statted that calves were kept in the barn. They were started brought to pasture until one years barn. They were started to brought to pasture until one years of old.

According to the several data on milk production of water buffalo average were estimated as 600-800 kg of milk obtained from 8-18 month of lactation length (İzgi ve Asker, 1988; Adam, 1975). İzgi et all (1989) reported 220 days of lactation length (Uslu, 1970) gaved 256 days of lactation length in farmer's condition. İzgi and Asker (1988) determined the lactation length according to the calving season of summer (234 day) autumn (216 day) winter (213 day) spring (210 day). Şekerden et al (2000) investigated that average milk yield for the population researched was 1070 kg milk of 221 days of lactation length.

In Danamandıra village two times milking in a day as early in the morning (6.00 a.m.) and evening (08.00 pm) were practised. The milking routine such as cleaning the mammary gland practised than the milking was conducted. In Danamandıra village average lactation length was 210-240 day in a rare cases sometimes milking prolonged until next calving. Mostly during off practised up to 6 month before the calving in Danamandıra village. They've declared that most productive period for water buffaloes were 10-15 years of age as shown by 10-15 kg daily milk yield.

Average fat content in water buffalo raised in Turkiye were reported

as 8.07 % by İzgi et al (1989). Due to high content of glycoprotein structured lactoferrin the growth of bacteria as detonation in buffalo milk were slow down. Generally buffalo milk traditionally served with famous Turkish dessert creamy milk fat. The percentage of creamy structured milk fat content was about to 13 %. This figures not stands for milk fat content. Creamy structured called 'kaymak' in Turkish products from buffalo milk has other constituent additionally to the milk fat.

It 's recommended to give 0,5-1 kg concentrate as bran or grinded barley especially in milking period. Generally oats and wheat strums are given as sources of roughages (Uslu, 1972). In Danamandıra village farmers had stated that daily 10-20 kg roughages are given to buffaloes. It's also stated that daily 0,5-3 kg concentrates has been given in milking period. Two times each day buffaloes were brought to the source of clean water consumption.

Danamandıra village farmers determined that the most frequent health problem they've confronted with is

pnomonie. They've their own beliefs to treat by puncturing the ear of buffaloes with black grass (a kind of grass) founder in the area. The scientific meaning of this finding has need to be researched.

Annual boosters on vaccination were practised in the area by local branch of ministry of agriculture.

Generally the phenotypic mass selection criteria favoured by farmers for the male in the Danamandıra village were as wide horn, big sized chest, long thin tail, thin skin, soft meat muscle, high level of cidago height, thick leg wrist, black tail, thin neck, volume back. These criteria's for the females were as thin neck, thin tail plain upper line soft mammary gland. Clear and visible milk wean in the mammary gland, big nose holes, long nose and big eyes. Natural inseminations were practised since all animal grassed together. Buffaloes breeder prefer and favoured the pastured with thyme, leaf of hornbeam. They have believed that pastures grown on red soil were better for their buffalo's preference than its other source.

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