Ağaç ve Orman
Tree and Forest
https://dergipark.org.tr/tr/pub/agacorman

ISSN: 2757-5349
2024, 5(2): 106-112

Araştırma Makalesi

A research on the Gaziantep chukar production station

Gaziantep kınalı keklik üretim istasyonu üzerine araştırmalar

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Gönderim Tarihi:
28/03/2024

Kabul Tarihi:
23/05/2024

Atıf:
Bal, G. 2024. A research on the Gaziantep chukar production station. Ağaç ve Orman, 5(2): 106-112. DOI:10.59751/agacorman.1471862

Abstract
Chukar (*Alectoris chukar*) is one of the most popular game birds in Türkiye. The generation of this species has been dramatically reduced in the last century. It is possible to reproduce this bird species, bring it to nature, develop hunting tourism in our country, make particular hunting areas and earn income from hunting tourism. Chukar (*Alectoris chukar*) is found over large areas in Türkiye and over the world. Unfortunately, their population has been decreasing due to human pressure in the country. Breeding stations have been established to produce of this species in Türkiye in order to increase their population and make them available for hunting. The breeding stations are the areas where the extinct species are artificially produced, and the facilities required for production are established. Their primary purpose is to produce extensively species in artificially established facilities, place these animals in suitable habitats or new production stations, and benefit from animals placed in production stations as new breeding stations. Although chukar breeding is just a hobby for some people in Türkiye, it has been made by some government agencies and research purposes in Faculties of Agriculture and Veterinary in some universities to ensure the continuation of his generation in recent years. In this study, located in Gaziantep province, studies were carried out on the producing and releasing wild animals to nature at the production stations. General information were given about the establishment of production stations, production techniques, working order, encountered problems, applications to solve problems, and precautions. A detailed investigation and research have been carried out on the Chukar Production Station established in Gaziantep province. In this context, Gaziantep Chukar Production Station is located at the provincial borders. After the hunting and wild animals are produced in this station, they are placed in nature in the docking sites. In this study, deficiencies and problems of the production station mentioned above have been revealed.

Anahtar kelimeler: Gaziantep, Chukar, Production Station.

Özet
Kınalı keklik (*Alectoris chukar*), Türkiye'deki en popüler av kuşlarından biridir. Bu türün nesli son yüzyılda önemli ölçüde azalmıştır. Bu kuş türünü çoğaltmak, doğaya bırakmak, ülkemizde av turizmini geliştirmek, belirli av alanları oluşturmak ve av turizminden gelir elde etmek mümkündür. Kınalı keklik (*Alectoris chukar*), Türkiye'de ve dünyada geniş alanlarda bulunur. Ne yazık ki, ülke genelinde insan baskısı nedeniyle nüfusları azalıyor. Bu türün popülasyonunu artırmak ve avlanmaya uygun hale getirmek amacıyla Türkiye'de üretim istasyonları kurulmuştur. Üretim istasyonları nesli azalan türlerin yapay olarak üretildiği ve üretim için gerekli tesislerin kurulduğu alanlardır. Başlıca amaçları, yapay olarak kurulan tesislerde türleri yaygın olarak üretmek, bu hayvanları uygun habitatlara veya yeni üretim istasyonlarına yerleştirmek ve üretim istasyonlarına yerleştirilen hayvanlardan damızlık olarak faydalanmaktır. Türkiye'de bazı insanlar için keklik yetiştiriciliği sadece bir hobi olmasına rağmen, son yıllarda neslinin devamını sağlamak için bazı devlet kurumları ve üniversitelerin Ziraat ve Veteriner Fakültelerinde araştırma amaçlı olarak yapılmaktadır. Bu çalışmada, Gaziantep ilinde bulunan üretim istasyonlarında yaban hayvanlarının üretimi ve doğaya bırakılması üzerine çalışmalar yapılmıştır. Üretim istasyonlarının kurulumu, üretim teknikleri, çalışma düzeni, karşılaşılan sorunlar, sorunları çözme uygulamaları ve alınan önlemler hakkında genel bilgiler verilmiştir. Gaziantep ilinde kurulan Kınalı Keklik Üretim İstasyonu hakkında ayrıntılı bir inceleme ve araştırma yapılmıştır. Bu bağlamda, Gaziantep Erikçe Kınalı Keklik Üretim İstasyonu il sınırları içinde yer almaktadır. Bu istasyonda av ve yaban hayvanları üretildikten sonra, yerleştirme alanlarında doğaya bırakılırlar. Bu çalışmada, yukarıda bahsedilen üretim istasyonunun eksiklikleri ve sorunları ortaya konmuştur.

Keywords: Gaziantep, Kınalı Keklik, Üretim İstasyonu.

1. Introduction

Chukar partridge (*Alectoris chukar*) is a medium-sized partridge belonging to the Family *Phasianidae*. Chukar partridge is a grayish-brown bird with above buff belly and a dark black line across the forehead and eyes while down the neck contrasts the white throat. Male weight varies from 510 g to 800 g and is slightly larger than female weight ranging from 450 g to 680 g. Males are monogynous (Christensen 1970). Chukar partridge prefers arid rocky and hilly country ascending to the higher mountain of Himalayan uphill ranges. This bird is found associated with degraded foothill scrub, comprising Dodonea viscose. *Alectoris chukar* is very adaptable to all kinds of arid, rocky, hilly, stony, sparsely scrub-covered hillsides. Its native range is in Eurasia, Türkiye, Israel, India, Afghanistan, and Pakistan along the inner ranges of the Western Himalayas to Nepal. This bird is mainly found at an elevation of 2000 m to 4000 m except in Pakistan where it is found around 600 m elevation. They are rarely found in highly humid or rainfall areas. (Whistler H, Kinnear NB

1949; Roberts 1991; Rasmussen & Anderton 2005). In Pakistan, it is commonly found in Baluchistan, Sind, Malakand, Swat, Dir, Chitral, Gilgit, Margala Hills, Kurram valley, Safedkoh, Kirther range, Indus Kohistan, AJK and Baldistan. Mostly, this bird is residential in nature. Flight is generally restricted to short distances downhill, usually when flushed (Baker 1922).

Chukar partridge is relatively unaffected by hunting or loss of habitat due to its remote and physically demanded terrain preferences. Its numbers from year to year are vastly affected by weather pattern during its breeding season (Duarte & Vargas 2004). Apart from the above description, the human population has increased many folds in the recent years which caused the illicit shooting, killing and poaching of wild animals and significant destruction to their natural habitat. Therefore, it is desired to protect such natural resources from extinction.

Chukar (*Alectoris chukar*) is one of the most popular game birds in Türkiye. The generation of this species has been dramatically reduced in the last century. It is possible to reproduce this bird species, to bring it back to nature, to develop hunting tourism in our country, to create special hunting areas and to earn income from hunting tourism.

Chukar is one of 14 subspecies of birds of game with significant commercial potential, being domesticated and in wildlife. The chukars are fed for hunting, meat production. Their eggs are delicious and contain low fat. It is suitable for those who want to start ornamental bird breeding due to its ease of feeding and breeding. Chukar is produced in many countries such as the USA, France, Spain, Hungary and Czechia. These animals are hunted in special hunting grounds. The ecological conditions of our country are suitable for the establishment of hunting areas, but these areas are only established in the village of Nazilli-Alamut. In 1951, chukar was taken from Izmir to the United States and released to 4 different regions (New Mexico, Arizona, Utah, and Nevada). In these regions, these chukar were hunted as "Turkish chukar" (*Alectoris graeca kleini*). While the chukars were seen in flocks until 5 to 10 years ago, but nowadays, their numbers have decreased, and hunters cannot find chukars to hunt. It is believed that the disruption of natural balance caused by chemicals used to increase yield, along with unconscious hunting and agricultural practices, is leading to the disappearance of natural chukar populations.

Most studies of partridges have focused on reproductive traits (Gonzalez-Redondo, 2010; Yamak, 2015), egg production (Kirikci et al., 2007), and feeding (Ozek et al., 2003; Khaksar et al., 2014). Studies examining the fattening performance of partridges have concentrated on birds raised under intensive conditions (Ozdemir and Esen, 2006; Gunlu et al., 2007). Studies have compared partridges raised in cage and ground systems for egg production (Ozbey and Esen, 2007) and growth (Ozdemir and Esen, 2006). Kokoszyński et al. (2013) examined the carcass composition and meat quality of partridges in outdoor aviaries, and many studies have reported on the effects of intensive and free-range production systems on meat quality in different poultry species (Fanatico et al., 2007; Sarica et al., 2011).

1.1. Chukar on earth and distribution in Türkiye, the population status and trends

Chukar breeding is widely and successfully carried out in the USA, France, Italy, Greece, and England. The number of hunting birds (chukar, pheasant, quail) which is grown for butchery purposes is around 25 millions (Özek, 2007). In these countries, the number of private hunting grounds is around 2000 (Özek, 2007). Distribution of the Chukar species on Earth and in Türkiye (Figure 1).

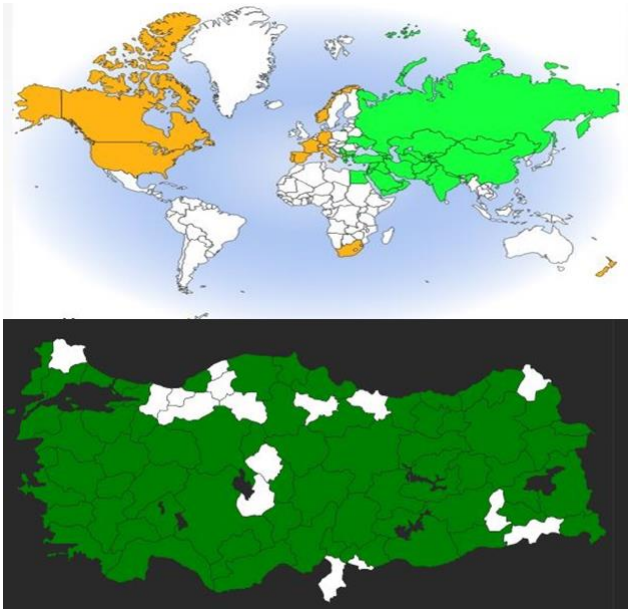

Figure 1. Distribution of the chukar species on earth and in Türkiye.

Although chukar breeding is just a hobby for some people in Türkiye, it has been made by some government agencies and research purposes in Faculties of Agriculture and Veterinary in some universities to ensure the continuation of his generation in recent years. These enterprises had to import materials from these years. Today, however, these businesses grow the bird material which is needed.

2. Experimental procedure

On the way to Öğümsöğüt village in Şehitkâmil District of Gaziantep Province, Kahramanmaraş Regional Directorate, Gaziantep Forest Management Directorate, Gaziantep Forest Management Directorate, which belongs to General Directorate of Forestry, is entered into 1/25000 sheets of Gaziantep N38c4.

The field area of the production station is approximately 7.2 ha and the average elevation is 990 m. According to the Gaziantep Forest Management Directorate Management Plan, the boundaries of the production station area are located in sections 363, 364, 366, and 367 Satellite image for the investigated area is given in Figure 2.

2.1. Status of biotopes in the production station

There are two detailed studies conducted by botanists on the vegetation of the region. The Gaziantep University Campus Flora was studied by Özuslu (2004), while the bulbous plants of Sof Mountain was studied by Özuslu and İskender (2009).

According to these studies, the 420 taxa collected from Sof Mountain, 29% of them belongs to Iran-Duran, 17% to the Mediterranean, and 11% to Euro-Siberian phytogeography (Özuslu and İskender (2009).It was determined that 39% of the 176 taxa taken from Gaziantep University campus were entered into Iran-Turan, 29% to Mediterranean and 1% to the European Siberian phytogeography region (Özuslu, 2004).

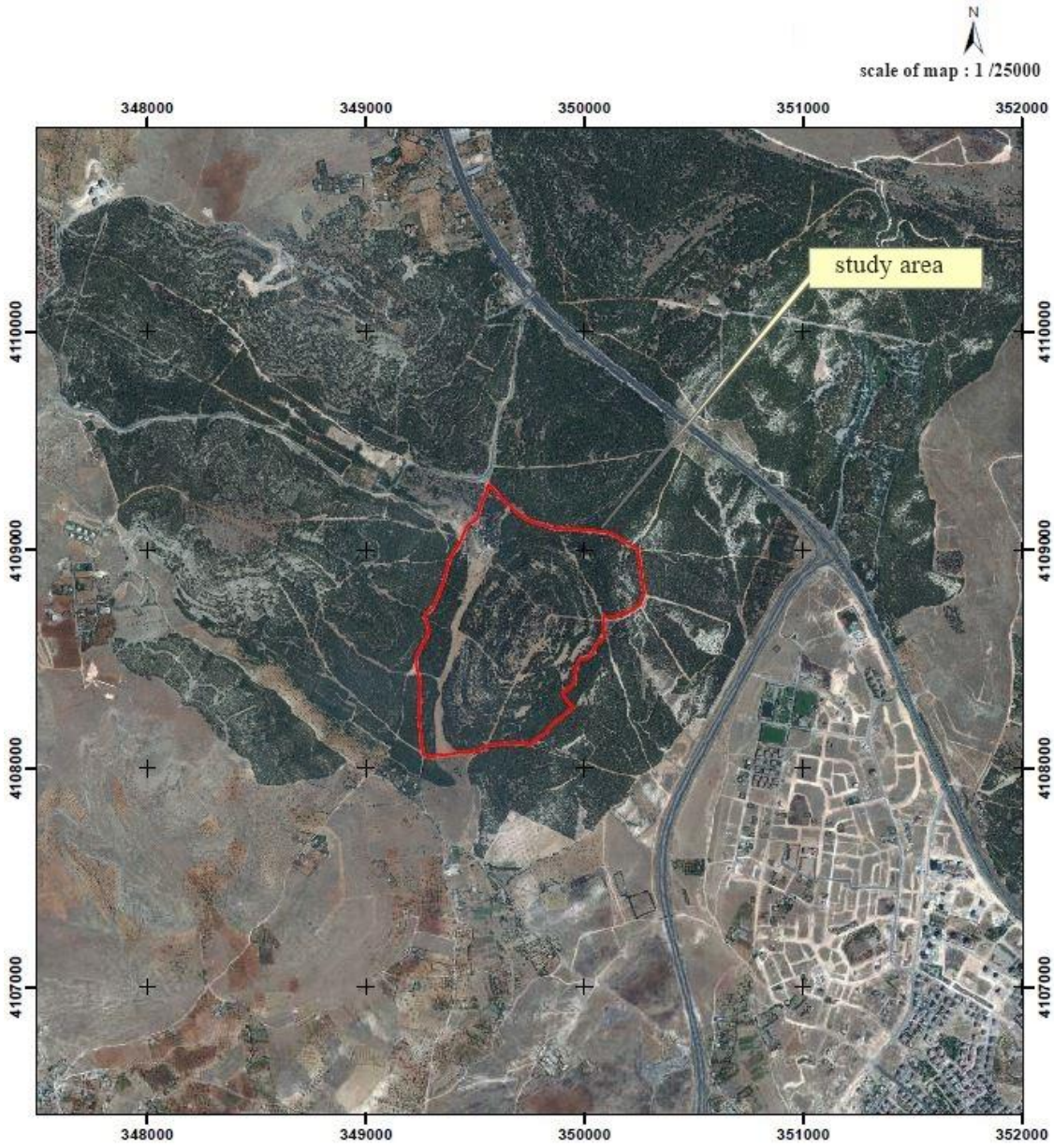

Figure 2. Satellite image for the investigated area.

2.2 Status of wild animal present in the field

As a result of the studies conducted in the field, it is estimated that wild species such as wolf (*Canis lupus*), fox (*Vulpes vulpes*), rabbit (*Lepus sp.*), Marten (*Martes martes*) are known around the study area as it is understood from the statements of local hunters, forest regional directorate personnel and villagers.

3. Results

Figure 3 shows the number of eggs, the number of eggs entering the hatching machine, and the number of eggs coming out of the hatchery between 2009 and 2017. The average success rate of the egg machine was 50% between 2009 and 2017. The number of eggs, which was 5,000 in 2009, has increased by five times to 25,000 as of 2017. These increasing figures indicated an increase in the production capacity at the production station.

Figure 4 shows the distribution of the number of eggs that were lost due to various reasons, categorized as nestling, hen, and male chukar, between 2009 and 2017. Figure 5 shows the amount of production at the chukar production station between 2009 and 2017. The maximum production amount was

18,750 individuals in 2014, and at least 300 individuals were produced in 2009. The number of animals produced at the production station was at the lowest level at the station establishment. The production of the station increased by 18,450 units in 2014 compared to the start date of 2009 with the capacity of the production station and the development of production techniques. Figure 6 shows the amount of chukar allocation between 2010 and 2015. The maximum chukar allocation amount was 19,250 individuals in 2014, and the minimum chukar allocation amount was 15,000 individuals in 2011. The number of animals allocated from the animals produced at the production station was highest in 2014. It shows that the number of allocations is correctly proportional to the amount of production. Figure 7 shows the amount of chukar allocation made by provinces between 2010 and 2015. The maximum chukar allocation amount is 3,500 individuals in Gaziantep province and the minimum chukar allocation amount is 450 individuals in Karaman province.

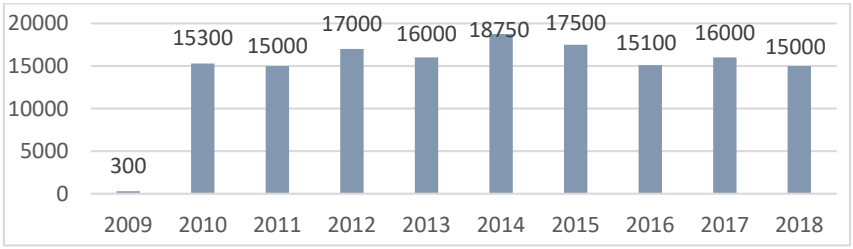

Figure 5. Chukar production by year.

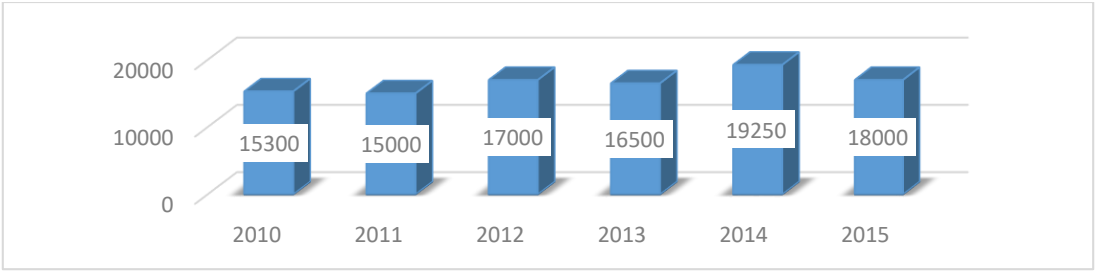

Figure 6. Gaziantep allocation of wild animals by chukar production station of the year.

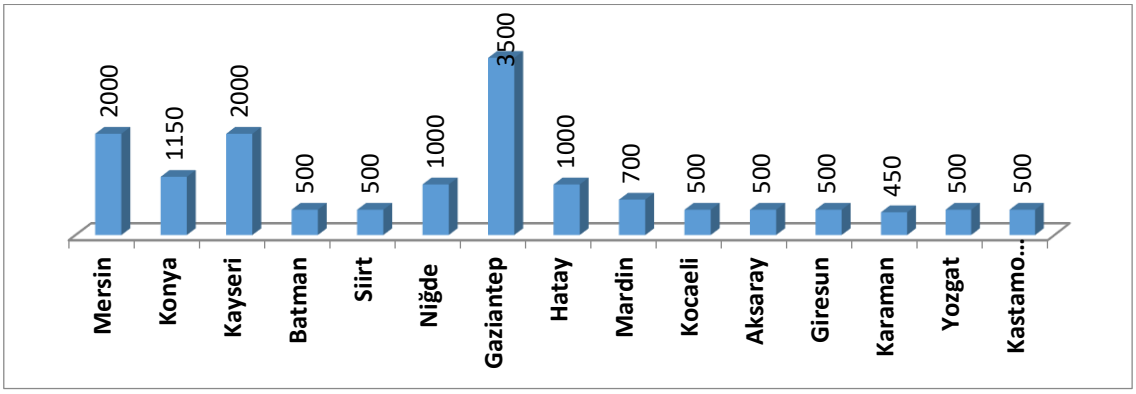

Figure 7. Allocation of chukar in 2010.

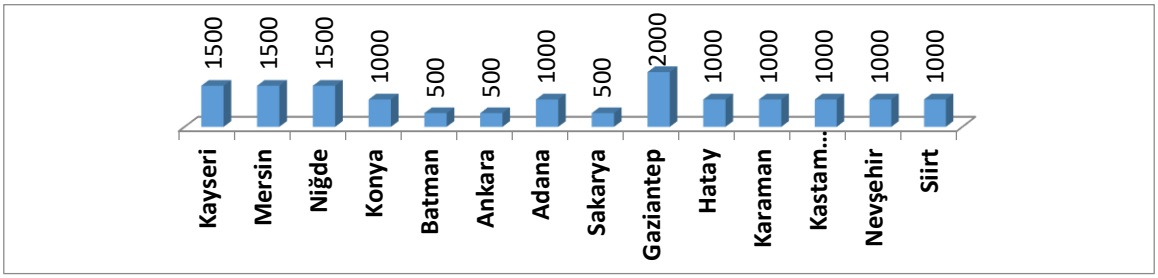

Figure 8. Allocation of chukar in 2011

Figure 8 shows the amount of chukar allocation made by provinces in 2011. The maximum chukar allocation amount is 2,000 individuals in Gaziantep province and the minimum chukar allocation amount is 500 individuals in Ankara province. Figure 9 shows the amount of chukar allocation made by provinces in 2012. The maximum chukar allocation amount is 2,000 in Gaziantep province and the minimum chukar allocation amount is 200 in Samsun province. Figure 10 shows the amount of chukar allocation made by provinces in 2013. The maximum amount of chukar allocation is 2,500 in Ankara and the minimum amount of chukar allocation is 200 in Adıyaman. Figure 11 shows the amount of chukar allocation made by provinces in 2014. The maximum chukar allocation amount is 3,200 units in Ankara province, and the minimum chukar allocation amount is 250 units in Kayseri province. Figure 12 shows the amount of chukar allocation made by provinces in 2015. The maximum chukar allocation amount is 3,750 in Antalya province, and the minimum chukar allocation amount is 250 in Tunceli province.

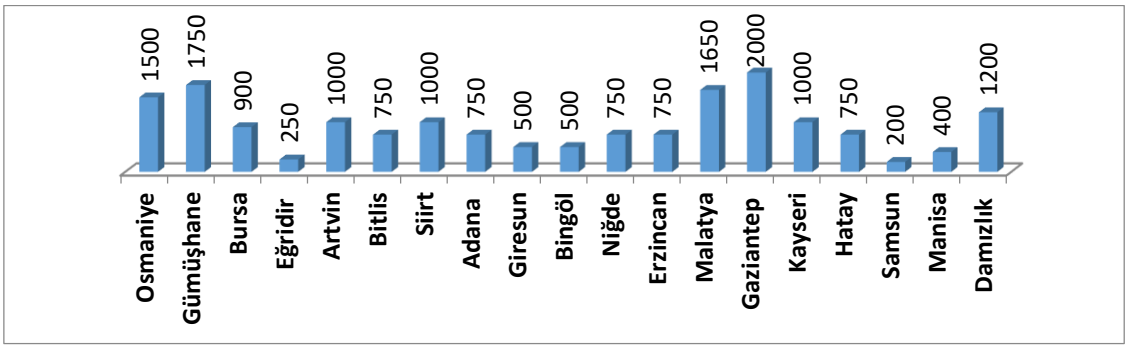

Figure 9. Allocation of chukar in 2012.

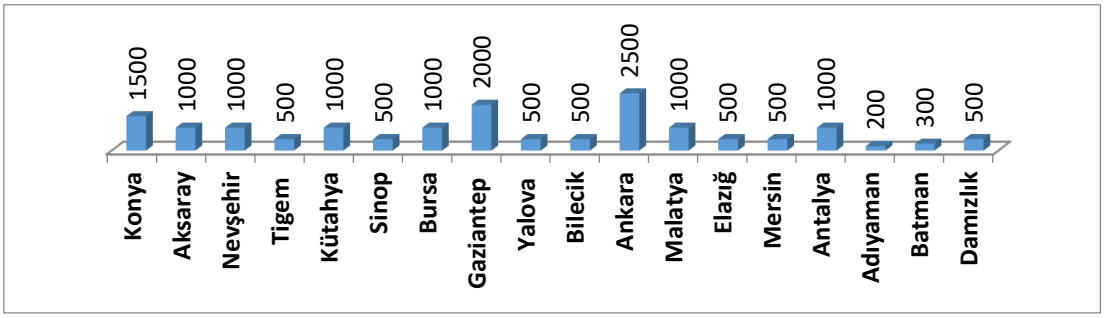

Figure 10. Allocation of chukar in 2013.

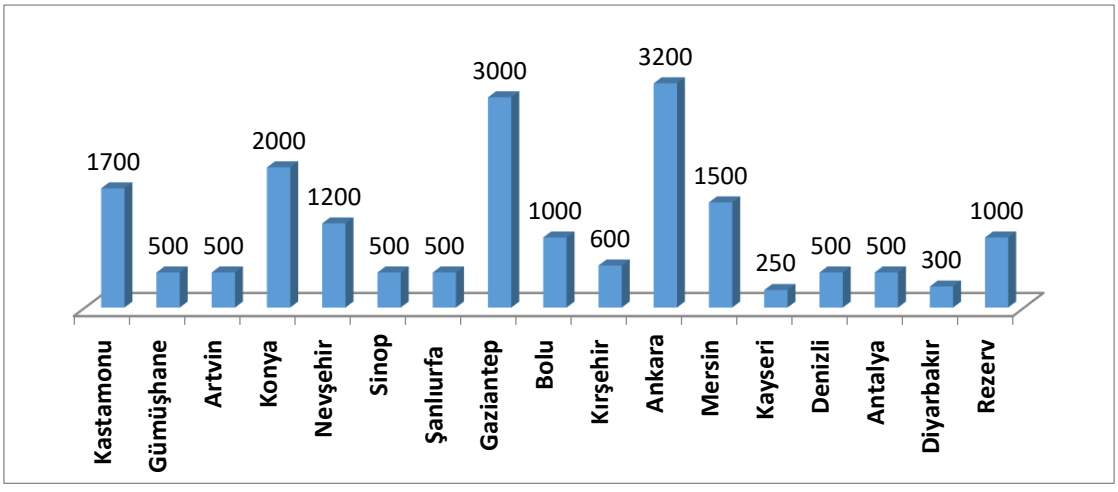

Figure 11. Allocation of chukar in 2014.

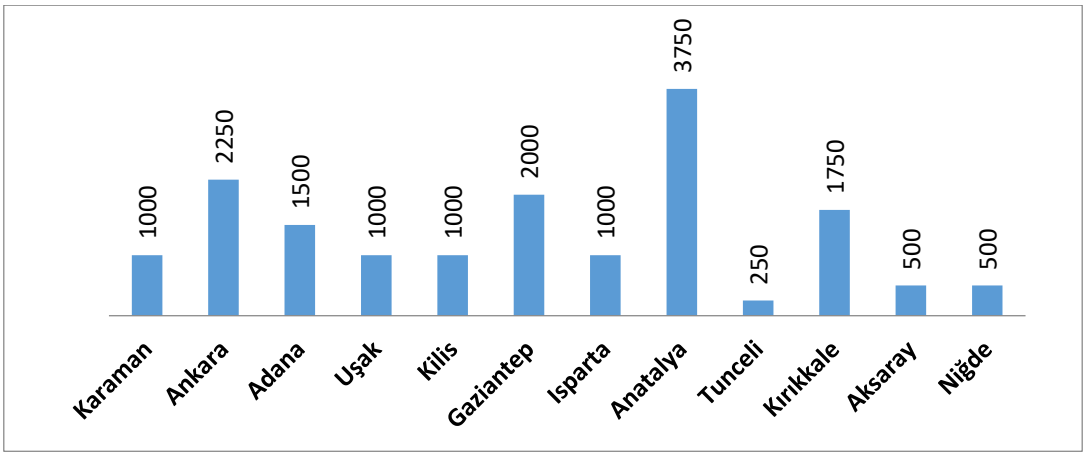

Figure 12. Allocation of chukar in 2015.

Figure 13. Chukar production station egg hatching

Annual average production at Gaziantep Chukar Production Station is given below;

- Egg production 33,000
- Chick production 19,500
- Chukar death 1,500
- Ready for allocation 18,000
- Hatching rate %57.5
- Mortality rate %7.69

3.1 Annual average breeding production

- Number of female breeders 840
- Number of male breeder 420
- Between 2004 and 2015, 15,000 partridges were placed in nature in Gaziantep.
- In 2015, chukar production studies were started under gurk chicken, and 30 gurk chickens were procured.

4. Conclusions

Chukar Production Stations have taken an important step in fulfilling the wildlife sustainability principle with the establishment in recent years. Success in production depends, first of all, on knowing the biological demands of partridge. Chukar is a very delicate bird. Considering their delicate structure, it is essential to ensure hygiene. The location of the incubator must be well maintained and should be protected against diseases.

Success in production is closely related to knowing the behavioral psychology of partridge. Chukar sitter could be given as an excellent example. In this study, it was observed chukar does not eat the food given by people. In addition, it was determined that even the color of caregiver clothes can affect egg laying. It is advantageous to have the same garment color and the same care officer.

In the production stations in Gaziantep, the production was done by using the release method in the first years, and then the production was made in the cage. The chukars should be divided into groups before the mating season, both in keels

and in chukars to be produced in cages. Otherwise, birds can be stressed, and it causes them to have dead eggs or no eggs. In the mating season, males do not accept any other male individual in the same cage. It causes individuals to fight. Male individuals should be separated into different cages in their mating season.

Food rations should be welladjusted. This is one of the most important processes for the success of the production. In production, henna chukar should have a good nutritional diet, especially during reproduction periods. They should be given in green feed as well as egg feed. Vitamin supplements should be made regularly every month. Vitamins relieve stress during production in partridges and in humans.

It is crucially essential that special transport preparations should be applied when placing the eggs in the incubators. This process can eliminate 99% of egg casualties. Coccidiosis was seen. On the other hand, roaming places and nests should be kept dry. The cleaning of the nests must be monitored. Humidity must be removed in flight compartments and roaming areas. Sun and flight places should be sunbathed. Feed should not be given as soon as the fry emerges. When the pup first comes out, water should be given. Water containers should be suitable for chick size. Otherwise, suffocation may occur. Especially the water should be clean and at room temperature.

Due to the location of the production station on the side of the road, the exhaust gases from vehicles have a negative effect on the animals in the production facility. As a result, production stations should not be located on the side of the road or near factories. The area where production stations are located should be protected by border walls. Measures should be taken to prevent wild animals or other animals from entering the plant during the production phase. The wire net used for the border should be of ideal width to prevent birds from entering. Production capacity of the production stations should beined at a reasonable level and research and development work should be initiated to test natural production techniques.

Author contributions

Concept: G.B.; Design: G.B.; Supervision: G.B.; Data Collection: G.B.; Analysis: G.B.; Literature Search: G.B.; Writing Manuscript: G.B; Critical Review: G.B.

Acknowledgements

II. International Black Sea Coastline Countries Symposium July 20-22, 2019 Samsun/ Türkiye The English abstract of our study was presented at the symposium. I would like to thank for the organisation and process within the scope of the symposium.

Ethics committee approval

N/A.

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