

Features and New Trends in Turkish Poultry Industry

Nezih Okur¹, Mesut Turkoglu², Hasan Eleroğlu³, Serdar Ozlü² and Ahmet Ucar²

1. Department of Poultry Science, the University of Abant İzzet Baysal, Bolu 14280, Turkey

2. Department of Zootechnics, the University of Ankara, Diskapi, Ankara 06110, Turkey

3. Department of Informatic, the University of Cumhuriyet, Sarkisla, Sivas 58400, Turkey

Abstract: In this review, features and new trends on Turkish poultry industry are evaluated. Turkish poultry industry has rapidly developed in last years in especially broiler meat and egg production. As a result of these developments, The Turkish poultry sector is recognized as an industry. The industry has advantages such as modern facilities and production methods, thanks to international standards and international markets in close proximity, making it able to compete with the whole world. However, industry has some problems such as the high costs of the production and dependence on external inputs for raw materials in feed and breeders. Fortunately, Turkey is an interesting country that can adapt very quickly to emergencies. Turkish poultry industry is trying to adapt to new and difficult conditions and often succeeded. The policies being followed by the elimination of dependence in foreign, measures taken to reduce costs and the growth of the industry are supported in an increasingly manner to increase production and consumption. Thus, it is aimed that the Turkish poultry industry became much more useful industry on reduction in unemployment and finding a solution to the immigration problem by healthier, faster and planned development.

Key words: Turkish poultry industry, broiler, layer, development.

1. Introduction

Poultry industry is contributing an increasing amount of the supply of affordable animal protein in the world, which has a special importance in human nutrition. In recent years, the supply-demand fluctuations and price instability in alternative agricultural products have led to poultry industry to the forefront in agriculture. Because of these features, poultry meat production has economic importance in more than 50 countries around the world [1].

“Poultry meats” are classified into five groups as chicken meat, duck meat, geese and guinea fowl meat, turkey meat, pigeon and other birds by Food and Agriculture Organisation of the United Nations (FAO) [2]. Due to broiler and turkey meat is almost all of the Turkey’s poultry production and the lack of an industrial production for other poultry meat types, the review is given to the broiler and turkey meat. Nowadays, 91% of the production of broiler meat,

hatching eggs and chicks, and 75% of the production of table eggs are carried out by a small number (respectively 29 and 45) of large capacity integrated firms [3, 4]. The majority of these facilities working with contracted growing systems are new and more advanced technology is used compared to developed country. Therefore, the quality of poultry products generated is very high.

2. Developments in Turkish Poultry Industry

Broiler meat production in Turkey generally increased regularly, while turkey meat production which had declined after 2005 began to rise again in recent years. Broiler meat production in Turkey is developing rapidly settled 8th place in the world as of 2013 [2]. 3,300,000 tons of broiler meat production and 95,000 tons of turkey meat are expected to be produced in 2023 (Table 1).

Poultry meat consumption in Turkey, depending on developments of the industry and red meat prices, especially in recent years has increased considerably. The increase in poultry meat consumption is largely

Corresponding author: Nezih Okur, assist. professor, main research field: poultry science.

due to the increase in consumption of broiler meat (Table 1).

Turkey's poultry meat exports almost all broiler meat exports. According to the data of 2013, Turkey ranks 4th in the world poultry meat trade with 4.1% market share [2] and aims to rank third, following the US and Brazil. In 2014, broiler meat exports amounted to 431 thousand tons and 700 valued million US dollars. About 80% of broiler meat exports are for 5 countries. Iraq (54.85%), the Turkish Republics (9.08%), Russia (6.94%) and Syria (5.58%) to come are one of the countries with the highest export [3, 5]. Between the years 2005-2015 about the product from 5% to 20% share of exports directed to the rising generation, is expected to exceed 30% in 2023 (Table 1).

The amount of Turkey's import poultry meat is quite low when compared to that of exports. Turkey in the last 15 years has been performing equalever chicken meat imports, but chicken meat was imported at very low values in other years.

Egg production, consumption and export in Turkey

have been developing rapidly. Turkey's table egg exports almost all (about 80%) table hen egg. Exports of table eggs in 2015 were about 3,520 million eggs and reached 275 million USD (Table 2).

Besides meat and eggs, as well as the main chicken product, slaughterhouse by products is used as feed ingredients in feed mills by processing in rendering plants such as poultry offal and feathers. Recently, chicken feet are exported to the Far East countries constituted a growing economic potential and the amount of export reached to 17,411 ton in 2015 [6]. Obtained manure, slaughterhouse and hatchery by-products during the activities in the industry can also be used in other areas of agriculture.

In the world, 2008-2009 followed by a partial recovery of the global financial crisis, although troubles in the euro zone are still continuing. However, the growth of the Turkish poultry industry in 2015 was 5.0% (4.6% increases in broiler meat production) [6] and the success of the industry's production and export growth can not be disputed. This success in the industry carried out by means of a high amount of

Table 1 Development of Turkish poultry industry [5, 6].

Years	2005	2010	2015	2023 (target)
Production (ton)				
Broiler meat	978,400	1,423,000	1,982,000	3,300,000
Turkey meat	53,530	33,000	55,500	95,000
Consumption (kg/person/year)				
Broiler meat	13.61	17.87	21.81	27.00
Poultry meat	15.10	19.02	22.83	28.80
Poultry meat exports				
Ton/year	44,974	151.339	359,223	1,086,800
Million USD/year	34	230	585	1,960

Table 2 Development of Turkish egg production [4].

Years	2006	2010	2015
Production (million)			
Poultry Egg	8.401	12.737	17.206
Consumption (total/person/year)			
Poultry Egg	114	160	218
Egg Exports (million)			
Quantity	195	2.143	3.520
Value (million USD)	18,927	156,619	275,166

production and export, which is making an enormous effort to do this and are trying to overcome a lot of adversity. Although the rapid development in the Turkish poultry industry is also experiencing major problems. Problems in the Turkish poultry industry can be divided into four main sections as production, consumption, sales-marketing and legislative issues.

2.1 Developments on Production in Turkish Poultry Industry

A set of problems related to raw materials, house and breeding are considered as problems related to production. In particular, high raw material costs and dependence on external inputs are observed as the main difficulties preventing the development of the industry. Importing of corn, soy and fish meal which are main raw materials of poultry feed have led to increased dependence on the outside of the industry.

Although corn importation is decreasing in last years, especially when inadequate soybean production is becoming a limiting factor (need 2.6 million tons, production 161 thousand tons). Maize production is very expensive (more than 42% in US) due to the fact, come to import the agenda and continues related problems [7]. Moreover, feed raw materials such as corn and soybeans, even if taken within the scope of inward processing regime (Inward Processing Authorization Certification/DIIB), is reported to be a major disadvantage of high shipping cost [8, 9]. In order to eliminate problems that might prevent the development of industry, primarily reducing feed costs make up a large portion of production cost is required. To do this, increasing the amount of domestically produced feed stuffs, especially with the development of policy support in soy and corn may be helpful [10]. Government-based price application is another factor that increases the costs and ending the base price by implementing with world prices + the bonus system started to be well worthwhile [3]. The high costs of the industry's energy are a problem to be solved. The implementation of a more appropriate

discount rates on electricity, Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG) to growers with integrated companies will be an incentive to support more industries.

Insufficient number of poultry house is a major obstacle in front of the stable production. In 2014, the Instrument for Pre-Accession Assistance Rural Development Program (IPARD) grants which are disbursed through the Ziraat Bankasi reduced interest in the investment and business loans and house investments have taken place, setting an important contribution to the state sector. Studies on this issue are ongoing. The continuation of improvement on such supports will provide a reduction in the problems of production-induced house.

Activities related to breeding, is notable as one of the least important parts of the poultry industry. One of the reasons is the high breeding researches and production cost. Lack of trained personnel and experts is another important reason. In the Turkey breeder production, to eliminate the dependence on foreign imports, the establishment of public and private sector organizations institutions to hold the hands of the breeder production and grant these organizations, supported by applications such as low-interest loans and tax exemption aimed to encourage investment [8, 11]. As a result of improvement works carried out under these objectives, domestic layer breeder lines (known as ATABEY, ATAK and ATAK-S) have been developed. In 2015, the number of domestic layer breeders 25,000, while the number of sold layer chicks reached approximately 700,000. It has been shown that positive results are reached in some plants which management and environmental condition are not adequately for foreign hybrids even if yield performance of them as foreigners. The work initiated for developing of domestic broiler breeder lines is expected to be taken in the shortest time [12]. To be successful, this project is supported investments are encouraged cooperation between public and private sectors. In addition, a set of environmental conditions

inside the organization to take part in genetic improvement in the state sector, are arranged according to today's technology, lack of staff and experts are trying to be resolved.

2.2 Developments on Consumption in Turkish Poultry Industry

Although the consumption of poultry meat, which increased significantly in recent years in Turkey is lower than the consumption of the major producing countries, and this is another problem that needs to exceed the industry. To increase the domestic consumption and export of Turkey, it is necessary to increase the supply of further processed poultry meat products with different-flavoured, spicy and ensure the supply of different poultry species meat products [13].

Media-related problems and information pollution are among the most important issues affecting consumption. In the written and visual media, there was no scientific basis for the information and explanations, which caused misunderstanding in the community and did serious damage to the industry. The absence of desirable level of support on reducing the information pollution of relevant institutions also extends the solution process in this regard. With the development of the poultry industry, creating facilities that will contribute to companies and providing of public state-private sector cooperation, many studies are performed by different organizations. Turkish Poultry Meat Producer and Breeders Association (BESD-BIR), Turkish Egg Producers Association (YUM-BIR) and Turkish Feed Manufacturers Association (TURKIYEM-BIR) are the most important organizations.

Social media are monitored and significant improvements are reported in order to reduce media-related problems and information pollutions, improve communication and inform the public and press. Press releases are issued in consultation with subject matter experts and PR activities are carried out.

Together with PR work, as opposed to unfair and inaccurate perceptions about the industry's existing knowledge and perception of pollution has been started work to translate. The perception surveys are performed to demonstrate the consumption habits on the industry. The research results are evaluated and policy is determined accordingly. Plants are visited to interested people and organizations, made presentations on industry and answered questions of the visitors. The results of the studies, significant progress is taken in solving the problems related to consumption.

2.3 Developments on Sales & Marketing in Turkish Poultry Industry

Problems with exports are the important factors limiting the development of the industry. To achieve the export target, it is necessary to develop existing markets and reach new markets. As a result of a variety of political reasons not affect the poultry meat exports, Turkey has suffered in unable to use the potential and enter new markets. Brazil dominates some markets such as the Middle East and Russia makes it difficult for Turkey's entry into these markets. Although it is ready for the legal procedures relating to exports, cheap raw materials, labour and energy costs can not be engaged in the production and compete with Brazil. However, geographical proximity to the Russian and Middle East markets and the Muslim people of countries in the Middle East market may be an advantage for Turkish poultry industry. If it can be used effectively these advantages, Turkey are believed could receive a larger share of the Middle East and Russia market. For example, Saudi Arabia, with over 800,000 tons of chicken meat imports in 2014 is among the countries with the highest import. The region has become very important for Turkey from 2012 [5]. Russia is an important market for Turkey and a very large part of Turkey's exports to Russia are mechanically deboned poultry meat (MDM). After Russia has suspended food

imports from US and EU, Turkey's exports to this country began to revival. To further increase exports to Russia, it is necessary to make some bilateral agreements and increase the quota [3, 14].

Exports to China, Japan, and the Philippines are very important for Turkey. Preliminary studies have been completed in these countries and Japan is the breast meat importer such as the EU. China is chicken feet importers and it is important in terms of the increase in unit export prices. In particular, due to the Chinese export made with brokers and high transport costs, the economic loss in 2014 is estimated to be around 13.6 million USD [3]. The development of trade with these countries, which will reduce losses and will encourage effortless reaches new markets. EU is also a target market for more than 10 years. However, exports to this region with legal permits a kind of incomplete.

Export incentives are among the most important issues affecting the sales&marketing. Export support is available for \$26 per ton broiler meat and \$15 per 1,000 table eggs. It is believed that in order to attain the target countries should be given special support exports and the industry for export subsidies should be increased [9, 14]. It is thought that increasingly succesfull activities of Turkish Poultry Promotion Group it was established in the beginning of 2011 in order to boost exports, contribute to sales & marketing.

2.4 Developments on Legislation in Turkish Poultry Industry

The problems concerned with legislation are very important issues for the industry. Use of mechanically deboned meat (MDM) in some further processed poultry meat products ban, use of animal by-products (rendering products) in poultry feed ban, the difficulties in the importation of GMO-containing feed stuffs, the small number of reference laboratory, health issues such as the presence of Salmonella in poultry products, the lack of R&D projects and related

supports are the most important problems on legislation. Turkey, which is still in force, the use MDM ban in some further processed poultry products like sausages, neither the EU, nor the USA and any other region of the world is not prohibited. Therefore, improving the regulations on the use of MDM shall be made as soon as possible for the holders of both country and industry with consumers. The using ban of rendering products will also lead to additional costs and foreign exchange losses. In this regard, it is believed that it was necessary to postpone the implementation. The risk of contamination due to GMO feedstuffs, analyse errors, import difficulties related to new development puts the industry in distress. Increasing the number of reference laboratory as soon as possible will reduce the waste of time and money in the industry. Poultry manure subject is not properly managed and consistently stands out as a problem in front of the Turkish poultry industry. To solve the problem as soon as possible is being done to continue negotiations with relevant ministries.

3. Conclusion and Evaluation

In the poultry industry, as in all industries, the target is to obtain more products with lower cost and higher quality and sell these products at high prices by ultimately achieving the highest profit possible. Turkish poultry industry has advantages in terms of factors such as modern facilities, appropriate production methods to international standards and the proximity to the international markets can compete with the whole world. But high production cost and foreign dependency in feed stuffs and other outputs is limiting case for the future of the industry. In addition, factors such as infectious disease can negatively affect industry and can change the market preferences.

Monitoring of policies to eliminate dependence on foreign, of taking measures to reduce costs and to increase the domestic consumption industry are expected to support growth in a stable manner and the positive impact that industry. Republic of Turkey

Ministry of Food Agriculture and Livestock, the objective of the policies implemented in the poultry industry, to increase per capita poultry meat and egg consumption to the European countries level by consumer education and advertising has determined to bringing to work at full capacity established facilities and increasing to exports. In terms of these objectives, studies are carried out in the private sector and government cooperation and with great sacrifice to perform suitable for animals, economic and controlled care and feeding.

Turkey is a country that can adapt very quickly to emergencies. Turkish poultry industry is also in difficult conditions but often overcome. A closer cooperation with all partners in the industry and more effort is needed to solve the problems encountered in the industry and prevent economic loses in industry and country by closer cooperation with all partners in the industry.

Turkish poultry industry is healthy, for rapid and planned development, when the obstacle is reduced, a further increase of the current employment force, the reduction of unemployment and finding a solution to the immigration problem will become much more useful one industry. Thus, both the economic efficiency and more comfortable poultry production with high-quality meat production of poultry will be possible.

References

- [1] Roenigk, W. P. 1999. "World Poultry Consumption." *Poultry Science* 78: 722-728.
- [2] Anonymous. 2014. *Livestock and Poultry: World Markets and Trade*. USDA Foreign Agricultural Service report, USA.
- [3] Koca, S. 2015. *BESDBIR (Turkish Poultry Meat Producer and Breeders Association): Annual report*, Ankara, TURKEY.
- [4] Anonymous. 2016b. *Turkish Egg Producers Association (YUM-BIR) Layer Farming Data*. Ankara: Yumbir Publications.
- [5] Anonymous. 2015. *Turkish Poultry Meat Producer and Breeders Association (BESD-BIR) Report of Broiler Meat Sector: Production, Consumption, Foreign Trade Problems, Solutions, Opinions*. Ankara: BESD-BIR Publications, 14.
- [6] Anonymous, 2016d. *Turkish Poultry Meat Producer and Breeders Association (BESD-BIR) Report of Broiler Meat Sector Production, Consumption, Trading Data*. Ankara: BESD-BIR Publications.
- [7] Anonymous. 2016c. *Turkish Feed Manufacturers Association (TURKIYEM-BIR). Report of Turkish Feed Industry Production, Consumption, Trading Data*. TURKIYEM-BIR. Ankara: BESD-BIR Publications.
- [8] Akbay, R., Yalcin, S., Ceylan, N., and Olhan, E. 2000. "Development and Targets in Turkish Poultry." *V. Technical Congress of Agriculture Engineering in Turkey*, 795-810.
- [9] Turkoglu, M., Sarica, M. and Aktan, S. 2010. "Evolution of Turkish Poultry for Export." *VII. Technical Congress of Agriculture Engineering in Turkey*, 11-15.
- [10] Dastan, Z. 2010. "Problems and Prospects in Poultry Meat Productions." *National Poultry Congress, October, Kayseri, TURKEY*, 07-09.
- [11] Akbay, R., Ulker, M., Elibol, O. 1995. "Poultry Consumption Projections and Production Targets. IV. Technical Congress of Agriculture Engineering in Turkey." *Republic of Turkey Ziraat Bankası Cultural Publications* 26: 771-787.
- [12] Anonymous. 2016a. *Republic of Turkey Ministry of Food, Agriculture and Livestock 2016*. Annual report, Ankara.
- [13] Keskin, B., and Demirbas, N. 2012. "Developments in Poultry Meat Sector: Problems and Suggestions." *Journal of Agricultural Faculty of Uludag University* 2 (1): 117-130.
- [14] Turkoglu, M., Sarica, M., Arda, M., Yetisir, R., Erensayin, M., 2014. *Poultry Science Farming, Nutrition and Diseases*. ISBN: 978-975-94647-2-1. Ankara: Bey Ofset Printing.