

“TURKISH REPUBLIC” EGG PRODUCTION RISING BRAND IN EUROPE

Gökhan FİLİK¹, Mustafa BOĞA²

¹Ahi Evran University, Agriculture Faculty, Agricultural Biotechnology Department, 40100,
Kırşehir, Turkey

²Niğde University, Bor Vocational School, 51700 Bor, Niğde, Turkey

Corresponding author email: gfilik@ahievran.edu.tr

Abstract

The egg is one of the sources of animal protein, which is obtained easily and cheap in all around the world. The potential of egg production in the poultry industry in Turkish Republic (TR) is located in the top rankings. The importance of the poultry industry in TR has increased together with intensely increase of avian influenza especially in European countries. Although TR have unplanned and unbalanced development in the egg production industry, it is one of the largest egg producers among the EU countries. Additionally, the egg production industry is growing rapidly in TR, but use of own parents for hybrid production materials (hybrid of the egg-laying hens) is very few. The aim of present study was to evaluate egg production level in European Union vs. Turkish Republic. This work was supported by the Ahi Evran University Scientific Research Projects Coordination Unit. Project Number: ZRT.E2.16.006

Key words: layer hens, egg production, Atabey, ATAK, ATAK-S.

INTRODUCTION

Since the first times, people consume too intense eggs are as animal protein sources with healthy animal product (Filik, 2009). People daily nutritional needs meet to from animal and vegetable products. Especially, majority protein requirements of people in developing countries have been met to vegetable protein. However, to health growth and development from birth to adult of human need to this vital importance of animal protein sources. Egg is accessible, the cheapest and easiest animal protein source which provide animal protein demand of people. A laying hen in 4.5-5 months gives an egg between 50-65 g per day. The egg contain some component such as the yolk (30-33%), albumen (approximately 60%) and the shell (9-12%) (Ahmadi and Rahimi, 2011). Until nowadays such accessible, the cheapest and easiest another source of animal protein is not produced. They can make quick product of laying hens. Therefore it makes important for egg production forever.

The potential of egg production in the poultry industry in Turkish Republic (TR) is located in the top rankings. The importance of the poultry industry in TR has increased together with

intensely increase of avian influenza especially in European Union (EU) countries. Although TR have unplanned and unbalanced development in the egg production industry, it is one of the largest egg producers among the EU countries. Additionally, the egg production industry is growing rapidly in TR, but use of own parents for hybrid production materials (hybrid of the egg-laying hens) is very few. The aim of present study was to evaluate egg production level in EU vs. TR.

MATERIALS AND METHODS

Overview of egg productions

World Egg Production

Increasingly growth population of world has more demand for animal protein. While the world's population was 5.735.123.084 in 1995, in 2013 was 7.181.715.139. Also, egg production had been showed similar progress (FAO, 2016). In order to live a healthy life each person can consume eggs a day. The amount of eggs had been 178.9 pieces/per person in 2013 in the World. This situation is observed that the consumption of one egg every two days. From 1995 to 2013 year the increase approximately 20% of world's total population, the total egg

production 38%. But these situations cannot enough and food product needs per person is increasing every year. Especially, balanced nutrition the amount of animal protein production is well below the requirements. The elimination of these deficiencies can be the

easiest and cheapest eggs. As shown in Table 1, while world population increased quickly, egg production was increasing as well. In this case the people can meet need animal protein, but it is not produced in sufficient quantity in most countries.

Table 1. The amount of population and egg production by years (FAO, 2016)

	1995	2000	2005	2010	2011	2012	2013
World	5.735.123.084	6.126.622.121	6.519.635.850	6.929.725.043	7.013.427.052	7.097.500.453	7.181.715.139
Growth Rate%	100.00	6.39	6.03	5.92	1.19	1.18	1.17
Eggs, hen, in shell (1.000)	798.963.046	959.227.602	1.066.197.652	1.206.342.397	1.229.055.185	1.251.373.092	1.284.449.014
Growth Rate%	100.00	16.71	10.03	11.62	1.85	1.78	2.58
EU	483.502.026	486.649.906	494.240.613	502.083.739	503.032.828	503.716.322	504.219.112
Growth Rate%	100.00	0.65	1.54	1.56	0.19	0.14	0.10
Eggs, hen, in shell (1.000)	114.037.584	114.638.008	115.291.853	113.727.924	114.236.447	111.797.910	116.854.446
Growth Rate%	100.00	0.52	0.57	-2.01	0.46	-2.10	4.83
TR	58.522.320	63.240.157	67.860.617	72.310.416	73.517.002	74.849.187	76.223.639
Growth Rate%	100.00	7.46	6.81	6.15	1.64	1.78	1.80
Eggs, hen, in shell (1.000)	10.268.668	13.508.586	12.052.455	11.840.396	12.954.686	14.910.774	16.523.180
Growth Rate%	100.00	23.98	-12.08	-1.79	8.60	13.12	9.76

EU Egg Production

While EU constitutes 14.24% of world population and they produce 10.99% of total egg. Also, yearly egg production is defined as 231.8 pieces/per person in 2013 in EU. Despite

being above the world average, the number of eggs for per person is low. This data shows that there isn't a relationship between the consumption of eggs with level of development in Table 2.

Table 2. The total egg productions of TR and EU Countries (FAO, 2016)

Country	2010 (1.000)	2011 (1.000)	2012 (1.000)	2013 (1.000)	2013 EU Countries (%)
Turkish Republic	11.840.396	12.954.686	14.910.774	16.523.180	-
France	15.093.962	14.087.635	14.155.132	15.749.808	13.48%
Italy	13.157.100	13.482.000	13.660.700	13.839.000	11.84%
Germany	10.190.800	12.035.000	12.799.500	13.736.000	11.75%
Spain	12.896.400	12.995.363	11.409.116	11.787.412	10.09%
United Kingdom	11.274.000	11.200.680	10.806.200	11.517.000	9.86%
Netherlands	10.177.000	10.485.000	10.182.000	10.651.500	9.12%
Poland	11.124.031	10.373.000	9.536.000	10.041.940	8.59%
Romania	5.950.700	6.085.500	6.234.200	6.158.760	5.27%
Belgium	2.681.098	2.694.083	2.436.752	2.754.480	2.36%
Hungary	2.730.000	2.459.550	2.357.900	2.487.500	2.13%
Portugal	2.382.000	2.233.000	2.190.580	2.280.945	1.95%
Czech Republic	2.125.096	2.168.203	2.001.334	2.159.539	1.85%
Greece	1.996.000	2.000.000	2.040.000	2.060.000	1.76%
Sweden	1.762.000	1.840.000	1.936.500	2.047.620	1.75%
Austria	1.550.000	1.683.200	1.728.100	1.744.200	1.49%
Denmark	1.279.300	1.309.400	1.336.300	1.367.150	1.17%
Slovakia	1.176.000	1.244.103	1.242.487	1.261.036	1.08%
Bulgaria	1.430.951	1.178.471	1.168.997	1.187.823	1.02%
Finland	976.200	996.800	987.300	1.061.900	0.91%
Ireland	789.500	793.000	801.000	810.000	0.69%
Lithuania	774.000	729.000	725.000	716.000	0.61%
Latvia	714.133	664.914	671.123	629.175	0.54%
Slovenia	357.086	357.086	369.204	322.704	0.28%
Cyprus	156.600	172.450	174.320	197.500	0.17%
Estonia	176.163	176.877	171.955	181.500	0.16%
Malta	82.100	72.255	63.530	75.200	0.06%
Luxembourg	21.585	28.277	27.723	28.754	0.02%

As shown in Table 2, according to the data of 2013 France is ranked first with 13.48% rate in 28 countries member of the EU. Second and

third place, in most countries the volume of production was Italy and Germany, 11.84% and 11.75% respectively.

TR Egg Production

While TR was constitute 1.06% rate of the world's population, it was constitutes 1.29% rate in egg production. When analyzed in terms of population, TR was 15.11% of the population of the EU. When analyzed in terms of total egg production, TR seems to be more of the production member countries with 14.14% rate (Table 2). But TR is 216.8 pieces/per person in 2013.

This value is above the world average but it has emerged a value below the EU. In recent years, despite the increase the amount of egg

production in TR, it was not desired value (Figure 1).

TR is located in the top rankings in terms of egg production in the poultry industry. Additionally, the egg production industry is growing rapidly in TR. TR begin to use Atabay (white), ATAŞ and ATAŞ-S (brown) hybrid the egg-laying hens, which is developed by Poultry Research Institute, Food Agriculture and Livestock Ministry and increasing use of these animals to be reduce amount of imported laying hens in TR.

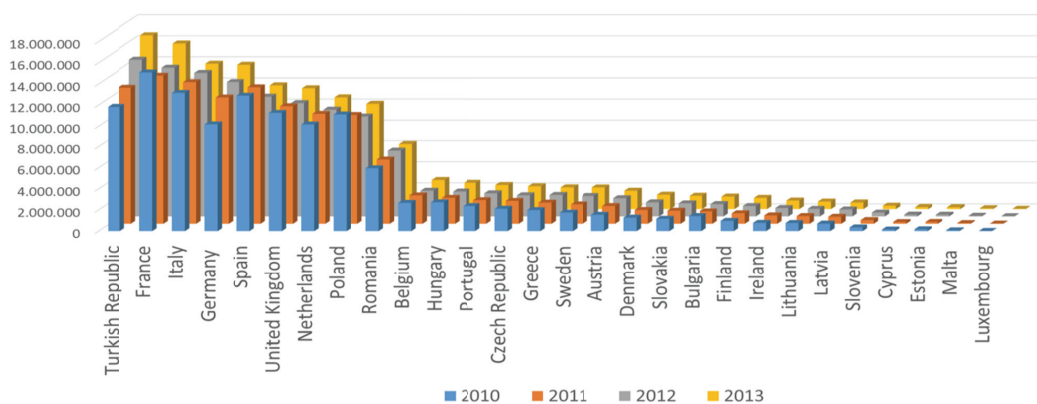


Figure 1. The total egg productions of Turkish Republic and EU Countries (FAO, 2016)

RESULTS AND DISCUSSIONS

New Domestic Hybrid Laying Hens

In recent years, poultry sector made significant improvements in TR that continues to grow rapidly. Especially, TR was imported breeding laying hens and broilers. Food Agriculture and Livestock Ministry has made forward-looking investments for TR that have currently national breeding broiler production project and improved hybrid breeding laying hens developed by Poultry Research Institute.

Import substitution in the country is provided significantly. Thus, national genetic resources that instead of chicken imported at high prices have been developed. Thus, producers are provided to reach easier and cheaper the layer hen breeding eggs. Therefore, it is trying to increase the amount of production the characteristics of laying hens domestic hybrid in TR is given Table 3. According to TAEM (2015), it is seen that good at 72 weeks of age performance data of hybrid in the brown and white egg layers breeding.

Table 3. Domestic hybrid in TR and commercial laying hens (TAEM, 2015; ISA, 2016)

Egg Color	BROWN				WHITE	
	TR		Commercial	TR	Commercial	
Origin	ATAŞ-S		ATAŞ	ISA	ATABEY	ISA
Egg Production						
Age at 50% Production (day)	144	147	144	150-155	142	
Peak Percentage (%)	96	95	96	96-97	96	
Over 90% of the time (week)	18-20	16-18	-	23-25	-	
Over 80% of the time (week)	42-47	34-38	-	41-45	-	
Hen-Day Egg Number						
72 Weeks	314	307	-	317-320	-	

Egg Number Hen Housed			18-90 Weeks	18-90 Weeks	
72 Weeks	312	304	409	313-315	413
Egg Mass Hen Housed			18-90 Weeks	18-90 Weeks	
72 Weeks (g)	20.000	18.750	25.700	19.200	26.100
Average Egg Weight			18-90 Weeks	18-90 Weeks	
72 Weeks (g)	64.7	62	62.9	61-62	63.1
Feed Intake					
1-18 Weeks (kg)	6.9	6.5	2.14	5.5	2.11
Average Feed Consumption per day (g)	115-118	105-110	109	101-105	109
Body Weight					
20. Weeks (g)	1680	1538	1975	1350	1720
End of Term (g)	2410	2000		1680	
Liveability					
Rearing (%)	97-98	96-97	93.9	97-98	95.3
Laying Period (%)	96-97	96-97		95-96	

CONCLUSIONS

TR increases the potential production using existing hybrid that developed by Poultry Research Institute, Food Agriculture and Livestock Ministry. Therefore, TR is trying to brand to become a major supplier of egg market in EU.

ACKNOWLEDGEMENTS

This work was supported by the Ahi Evran University Scientific Research Projects Coordination Unit. Project Number: ZRT.E2.16.006.

REFERENCES

- Ahmadi F., Rahimi F., 2011. 1 Factors Affecting Quality and Quantity of Egg Production in Laying Hens: A Review. *World Applied Sciences Journal* 12 (3): 372-384, 2011
- FAO, 2016. FAO Statistics Website. The total egg production of all countries database.
- Filik G., 2009. Effects of dietary *Ferula elaeochytris* root powder on laying performance, egg quality and plasma metabolites of hens. Çukurova University, Institute of Natural and Applied Sciences Master Thesis. <http://library.cu.edu.tr/tezler/7106.pdf>
- ISA, 2016. A Hendrix Genetics Company. Layers. <http://www.isapoultry.com/en/products/>
- TAEM, 2015. Hybrid Catalog. http://arastirma.tarim.gov.tr/tavukculuk/Belgeler/Hibritler%20Katalog%202015/Hibritler%20Katalog%203%27lu_2015.pdf