

# CHICKEN MEAT PRODUCTION AND POULTRY MEAT CONSUMPTION IN TURKEY AND ITS PROGRESS

M. Terin<sup>1</sup>, İ. Yildirim<sup>1</sup>, K. Çiftçi<sup>1</sup>

<sup>1</sup>Universty of Yuzuncu Yıl, Faculty of Agriculture, Department of Agricultural Economics, 65080-Van, Turkey  
[mterin@yyu.edu.tr](mailto:mterin@yyu.edu.tr)

## Abstract

Nutritional and health value of chicken meat have recently been perceived by consumers and demand has increased considerably in Turkey. Among other factors, which contribute to increasing demand of chicken meat are household income, relative prices of substitute meats to chicken meat and tastiness. The chicken sector in Turkey has reached to competitive level compatible to European countries with its modern technology and high quality slaughtering facilities.

The total production quantity of chicken meat rose from 401.6 thousand tons in 1990 to 1.06 million tons in 2007, which means yearly average increase of 38.1 thousand tons during 1990-2007 years period. The per capita poultry meat consumption rose from 7 in 1990 to 12 kg in 2003, which corresponds to 0.25 kg yearly average increase during 1990-2003 years period. However, even this figure is low in comparison to that of 50 kg and 25 kg for U.S. and Developed Countries, respectively.

The study is aimed at analyzing and interpreting the long term progress observed in chicken meat production and poultry meat consumption quantities in Turkey. The data has been obtained from Food and Agricultural Organization of United States, Turkish Statistical Institute. Index and trend analysis are used as analysis techniques.

**Keywords:** Chicken meat production, Poultry meat consumption, Turkey

## Introduction

Chicken farming has been a significant sub-sector of food production in Turkey in terms of meeting the meat needs of population (Anonymous, 2007; Türkoğlu, 1998). The sector is one of the most rapidly developed among the animal production ones (Anonymous, 2009d; Erdem, 2006), and the production has increased considerably thanks to contracted farming and establishing large-scale integrated facilities, which was initiated at the later years of 1980s (Sariozkani, et.al., 2009; Büyüknisan, 2008; Dağdemir et. al., 2006). Thus, the consumers have been provided with more diverse and higher quality of chicken meat products resulting in higher added-value to Turkish economy. Nearly 80 % of total chicken meat production is processed in modern entegrated facilities, which are compatible to European Union Countries (Civaner, 2007).

Nearly half a million people are working for 11321 Broiler Chicken Enterprises in Turkey and the total yearly turnout of poultry sector are approximately 3 billion dollars (Anonymous, 2009b).

There exist many factors, which contribute to a rapidly development of chicken farming. Some of them could be given as follows: Consciousness of consumers on the nutritional and health value of chicken meat (Atay et al., 2004; Anonymous, 2004); income level of households (Yıldırım and Ceylan, 2008; Jimin et al. 2004, Yıldırım and Yalçınkaya, 1999); the prices of meats substitute for chicken meat (Magdelaine, et.al., 2008; Marrison et. al., 2003), high population growth increase in case of Turkey (Sayılı, 2006); the absence of religious obstacles (Magdelaine, et.al., 2008), tastiness (Hayman, 2004), and social-economic developments (Magdelaine, et.al., 2008; Das, et.al., 2008); low input/output requirements, which sometimes generate a quick return on investment (Das, et.al., 2008).

Although avian influenza that was first observed at the later months of 2005 in Turkey resulted in demand decrease for chicken meat and the prices fell to such a level, which could not meet the production costs in the first months of 2006 (Sariozkani et. al., 2009), at the later months of 2006 stability in chicken meat demand and prices were maintained thanks to the campaigns regarding the consciousness raising of consumers (Yıldırım and Ceylan, 2008) and government financial supports.

This study aims at analyzing and interpreting the long term progress observed in chicken meat production and poultry meat consumption quantities of chicken meats in Turkey. The data set covers the period of 1990-2007 years for chicken production quantities and period of 1990-2003 years for poultry consumption quantities. The convenient statistical data for poultry consumption meat quantities of 2004-2007 periods could not be accessed. The data were obtained from Food and Agricultural Organization of United States, Turkish Statistical Institute. Simple and continuous index (Miran, 2002) along with trend techniques (Güneş and Arıkan, 1998) were employed in analyzing the data set of production and consumption quantities.

### **Overview of World Chicken Meat Production and Poultry Meat Consumption**

World chicken meat production quantities have rose from 58.9 million tons in 2000 to 74.2 million tons in 2007, which means more than a quarter percentage (25.9 %) increase during this period (Anonymous, 2009c). Trend for World chicken meat production during 1990-2007 years period (31.87+2.42 in terms of million tons ) showed that the average yearly increase was 2.42 million tons.

According to 2007 data, U.S, China and Brazil are the major producers of chicken meat with 21.7 %, 14.6 % and 11.9 %, respectively. These three countries represent nearly half of (48.2 %) total World chicken meat production. In spite of its low percentage in total World chicken meat production (1.3 % in 2007), Turkey still ranks in 14 th place.

The proportion of World chicken meat in total meat production rose from 13.6 % in 1970 to 24.2 % in 2004, while cattle meat decreased from 39.7 % in 1970 to 23.8 % in 2004 (Anonymous, 2006). The protein deficiency stemmed from cattle meat decreases have to some extent been met by increases in chicken meat.

World poultry meat consumption quantities rose from 40.29 million tons in 1990 to 74.77 million tons in 2003, which means the yearly average increase was 2.74 million tons during the period.

The per capita poultry meat consumption of U.S was 50 kg in 2003. This figure is comparatively high compared to that of European Countries, which ranged between 9 kg for Netherlands and 30 kg for Spain as well as that of 12 kg recorded for Turkey (Anonymous, 2009c). Israel and Brazil are among the highest poultry meat consumption in terms of per capita with 54.3 kg (in 2005) and 33 kg (in 2003) (Anonymous, 2009c).

Factors such as consciousness of consumers on the nutritional and health value of chicken meat (Atay et al., 2004; Anonymous, 2004); income level of households (Jimin et al. 2004); the prices of meats substitute for chicken meat (Magdelaine, et.al., 2008; Marrision et. al., 2003), population growth increases (Sayılı, 2006); the absence of religious obstacles (Magdelaine, et.al., 2008) and tastiness (Hayman, 2004) may be effective on the increase of poultry consumption.

### **Chicken Number and Chicken Meat Production in Turkey**

The broiler chicken number in Turkey rose from 88.3 million in 1991 to 205. 1 million in 2007, which means yearly average increase of 11.29 million between 1990-2007 years period (Table 1; Figure 1). However, significant fluctuations have been observed in terms of broiler numbers (Table 1), which could not be assigned to only a few variables.

Chicken meat production quantities rose from 401.6 thousand tons in 1990 to nearly 1.06 million tons in 2007 (Table 1), which corresponds to yearly average of 38.1 thousand tons increase during the period. The actual figures of chicken meat production were higher than that of trend values between 1990-1994 years; between 2003-2005 years and 2007 year but lower between 1995-2002 years and 2006 year (Figure 2).

While the yearly average increase of World chicken meat production quantities was 4.2 % for 1990-2007 years period, in Turkey this rate was higher with 5.5 % at the same period. Despite Turkey's low percentage of chicken meat production in total World production, which ranged between 0.88 % in 1996 and 1.43 in 2007 during 1990-2007years period (Table 1), Turkey still ranked at 14 th place in terms of chicken meat production quantities in World in 2005 (Anonymous, 2009a).

The proportion of chicken meat production in total meat production in Turkey was 34.9 % in 1980 reaching to 60.3 % in 2004, which was very high compared to 19.5 % for European Countries at the same year (Şaçlı, 2007;

Anonymous, 2008). The proportion of chicken meat production in total meat production was 57.7 % in Turkey in 2006 (Anonymous, 2008).

A significant structural transformation has been realized in chicken farming sub-sector in Turkey at the earlier years of 1990s by growing in number of modern entegre facilities and the application of contractual production system (Büyüknisan, 2008).

The major regions, where the production of chicken meat have been concentrated are Marmara, Aegean, Center Anatolia and Medeterranean. These regions have to do with the concentration of chicken meat production thanks to their proximity to crowded residential places, cheaper energy and material resources, convenient climate and the geographic structures and improved transportation systems (Anonymous, 2009d).

### **Poultry Meat Consumption in Turkey**

We could not accessed to reliable chicken meat consumption data. For his reason, poultry meat consumption figures will be given instead.

The poultry meat consumption in Turkey rose from 414.6 thousand tons in 1990 to 862.1 thousand tons in 2003, which means 2.07 times increase during the period. The increase rate is relatively slower between 1990-1998, which remains under 20 %, but accelerates beginning from 1999 until 2003. The increase between 2002 and 2003 is remarkable (Table 2).

Per capita poultry consumption quantity in Turkey remained stable with 7 kg between 1990-1998 except for 1996 with 6 kg. Beginning from 1999, it increased being 12 kg in 2003, which is remarkable compared to 9 kg in 2002 (Table 2). However, even this figure is low in comparison to that of 50 kg and 25 kg for U.S. and Developed Countries, respectively (Anonymous, 2009c). In view of trend for per capita poultry consumption during 1990-2003 years period, the yearly average increase in Turkey has been 0.25 kg. The actual per capita poultry consumption quantities were higher than that of trend values between 1990-1993 years; 2000 year and 2003 year, but lower at the remaining years during 1990-2003 years period (Figure 3).

In researches conducted in different urban regions of Turkey by means of face to face questionnaires methods, per capita chicken meat consumption quantities were found as 6.2 kg in Tokat Province (Çivi et. al., 1993); 11.3 kg in Erçiş town of Van Province (Yıldırım and Yalçınkaya, 1999); 19.1 kg in Center town of Van (Yıldırım and Ceylan, 2008); 13.6 kg in Tekirdağ (Gaytancıoğlu, 1999); 13.3 kg in Şanlıurfa (Şengül et. al., 2002); 23.7 kg in Aydın (Armağan and Özdoğan, 2005), and 24.7 kg in Adana (Büyüknisan, 2008).

### **Conclusion**

With its strong infrastructure and entegre facilities equipped by modern technology, the chicken sector in Turkey are at the position to compete in World chicken meat markets as a critical player. The sector provides the domestic and foreign consumers with diverse and quality meat products. Despite the increase in per capita chicken meat consumption and high growth rate in the production, the consumption is still low in terms of per capita in comparison with developed countries. More campaigns regarding the nutrition value of chicken meat should be provided specially to the young population. Major international and domestic restaurant chains may contribute a lot by providing more diverse, delicious and high quality chicken meat meals.

Taking into account the research results that the per capita chicken meat consumption are higher in Western part of Turkey, where the education, income and socio-economical developments are relatively better in comparison with less developed regions, measures regarding to raise the living standards of less developed regions may be a useful tool.

One of the most important obstacles against the development of sector is dependency to external markets in terms of brood and feeding materials. The production is seriously affected specially during the economical crises. Thus, domestic production of brood and feeding material seems essential in view of sustainability in production and low production costs.

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Table:1. Broiler Numbers and the Chicken Meat Production Quantities in Turkey

Years	Broiler Number (Million)	Basic Index	Chicken meat production (000 tonnes)	Basic Index	The Percentage of Turkey in World Chicken Meat Production
1990	-	-	401.6	100.0	1.13
1991	88.3	100.0	400.0	99.6	1.08
1992	100.3	113.6	424.1	105.6	1.09
1993	120.1	136.0	443.9	110.5	1.07
1994	125.8	142.5	474.0	118.0	1.09
1995	71.6	81.1	490.0	122.0	1.06
1996	99.1	112.2	420.4	104.7	0.88
1997	104.8	118.7	471.4	117.4	0.93
1998	167.3	189.5	486.6	121.2	0.92
1999	167.9	190.1	596.8	148.6	1.07
2000	193.4	219.0	643.4	160.2	1.09
2001	161.9	183.4	614.7	153.1	1.00
2002	188.6	213.6	696.1	173.3	1.08
2003	217.1	245.9	872.4	217.2	1.32
2004	238.1	269.6	876.7	218.3	1.28
2005	257.2	291.3	936.6	233.2	1.31
2006	286.1	324.0	917.6	228.5	1.26
2007	205.1	232.3	1059.4	263.8	1.43

Source: Anonymous, 2009c, 2009e

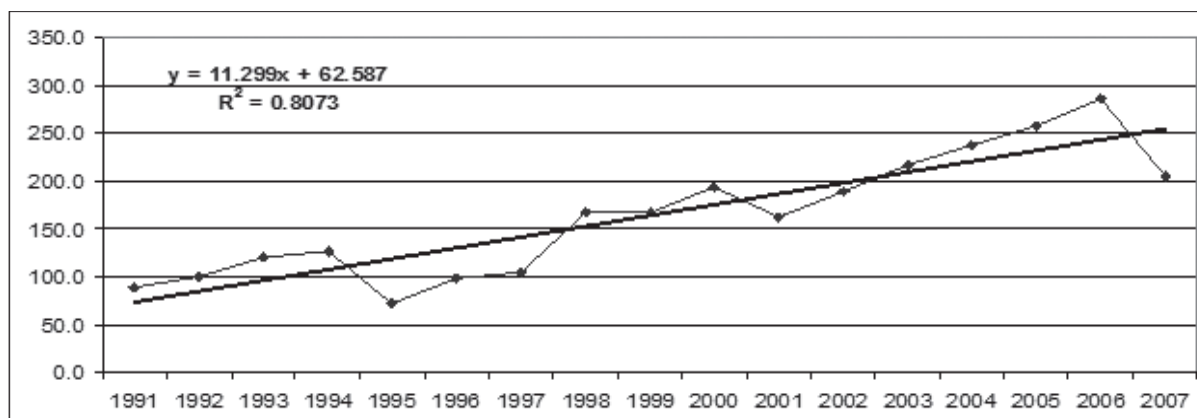


Figure 1. Trend for Broiler Chicken Number (in millions) in Turkey between 1991-2007 years period.

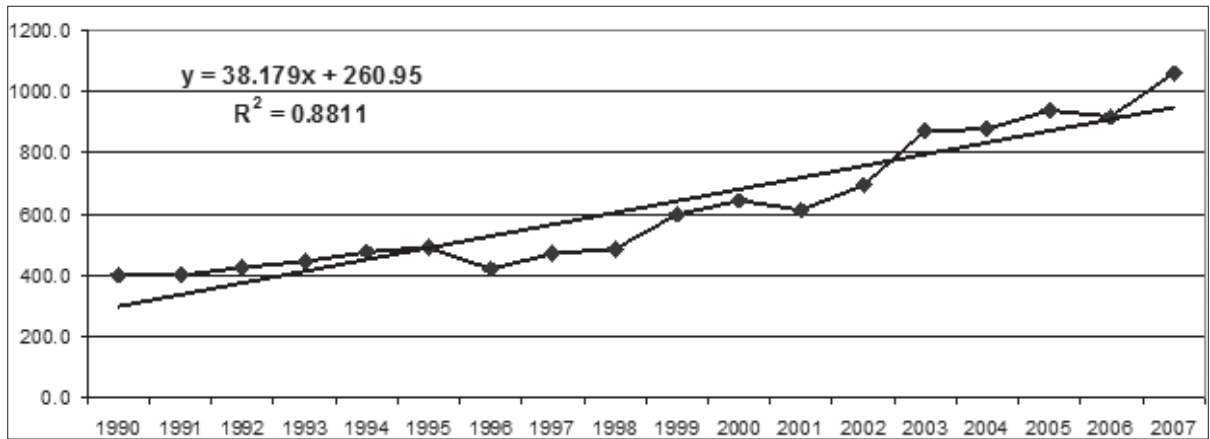


Figure 2. Trend for Chicken Meat Production Quantities (in thousand tons) in Turkey between 1990-2007 years period.

Table:2. Poultry Meat Consumption Quantities in Turkey

Years	Consumption (000 tonnes)	Basic Index	Per Capita Consumption (kg/year)	Basic Index	The Percentage of Turkey in World Poultry Consumption Quantities
1990	414.6	100.0	7.0	100.0	1.03
1991	414.3	99.9	7.0	100.0	0.98
1992	440.3	106.2	7.0	100.0	0.99
1993	459.1	110.7	7.0	100.0	0.98
1994	477.2	115.1	7.0	100.0	0.96
1995	501.2	120.9	7.0	100.0	0.94
1996	426.9	103.0	6.0	85.7	0.78
1997	475.7	114.7	7.0	100.0	0.82
1998	497.2	119.9	7.0	100.0	0.82
1999	604.8	145.9	8.0	114.3	0.95
2000	658.6	158.9	9.0	128.6	0.98
2001	609.9	147.1	8.0	114.3	0.87
2002	690.9	166.6	9.0	128.6	0.95
2003	862.1	207.9	12.0	171.4	1.15

Source: Anonymous, 2009c

Figure 3. Trend for Poultry Meat Consumption per Capita Quantities (in kg) in Turkey between 1990-2003 years period.

