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# STUDY ON THE TOMATO MARKET IN ROMANIA IN 2012-2017

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**Summary:** *Tomatoes are an important food in the diet of Romanians. The surface, production, sales price, consumption, and the import and export of tomatoes are influenced by a number of factors analysed in this paper. Also, the tomato market, and in general the Romanian vegetable market, presents a difficult situation for which the trade balance with tomatoes shows a significant deficit (about 80 million euros in 2017) and for which a series of measures should be taken to reduce this deficit.*

**Keywords:** *tomatoes, tomato produce, tomato surfaces*

**JEL Classification:** *Q10, Q13, Q17*

## INTRODUCTION

Given that the population of our country is in a sharp decline and continuous demand of vegetables is on an upward trend due to rising living standards, in conjunction with the disappearance of family farms, which represent an important source of assurance requirements agricultural products.

Romania benefited from a full range of financial aids, including those for the vegetable sector, both through direct payments and through the possibility of accessing European funds to achieve sector-level investments. However, the investments were not sufficient to ensure the domestic needs of fresh vegetables at the country level, Romania being dependent on imports from countries like the Netherlands, Turkey or Italy.

The problems that vegetable growers complain about relate in particular to the fact that they do not have a safe selling market, and there are periods in which they have failed to sell part of the production, resulting in significant losses.

The areas cultivated with vegetables register a marked decrease from year to year, being replaced by the areas cultivated in protected areas, which have special advantages over the way of cultivation in the field (Table no.1).

Table no. 1. The evolution of the areas cultivated in Romania during the period 2012-2017

Specification	2012	2013	2014	2015	2016	2017	%	Average area
	MU: thousands of ha							
<b>Total area</b>	8058.3	8166.8	8234.4	8265.4	8409.2	8307.3	100	8240.3
<b>Total vegetables grown from which:</b>	258.9	259.0	239.5	239.5	228.1	224.6	2.7	241.6
Vegetables grown in the field	157.6	153.8	136.8	138.9	131.2	128.6	57.3	141.2
Vegetables in solariums and greenhouses	3.3	3.4	4.0	4.0	4.2	4.0	21.1	3.8
Fresh vegetables in family gardens	88.4	93.2	90.0	88.3	86.0	85.6	38.1	88.6

Source: INSE database, access data 27.09.2018;

According to table no. 1. We can see that the total cultivated area has seen an upward trend, except in 2016 when over 8.4 million hectares were cultivated. Regarding the area planted with vegetables from the total arable land, in the year 2017 it has a share of 2,7%, having an area of 224 thousand hectares, decreasing by 13% compared to the area cultivated in 2012 (Table number 1.).

Of the total area planted with vegetables in the year 2017, 57.25% is the area planted with field vegetables, the area continuously decreasing from 2012, when this area was 157 thousand hectares, compared to 128 thousand hectares exploited in 2017 (Table 1).

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Also, the area cultivated in protected areas represents about 21% of the total area cultivated with vegetables, the area growing by about 4% compared to the area cultivated in 2012 (Table 1).

It should be noted that the area planted with fresh vegetables in family gardens still have a significant share of the total area cultivated with vegetables, of 38%, but which is down by 3.2% compared to 2012 (Table 1).

## MATERIALS AND METHODS

The research is based on the statistical data collected by the National Institute of Statistics, Eurostat and TradeMap, which will determine the evolutions recorded by the areas, outputs, average outputs, prices, imports and exports using the quantitative and qualitative research methods, and the comparison method.

## RESULTS AND DISCUSSIONS

The area cultivated with tomatoes during the analysed period shows a descending trend, so that if in 2012 this was 189 thousand hectares, in 2017 the cultivated area was 177 thousand hectares, decreasing by 6.3% (Table no. 2).

Table no. 2. The evolution of the area planted with tomatoes in the period 2012-2017 (thousands of hectares)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average area
Turkey	189,00	189,00	183.00	187,00	181.00	177,00	-6.3	184.3
Italy	91.85	95,19	103.11	107.18	96.78	103.94	13.2	99.7
Spain	48.61	46.62	54.75	58.13	62.72	60.85	25.2	55.3
Romania	29.75	28.07	24.43	24.84	22.71	22,23	-25.3	25.3
Portugal	15.41	15.63	18.46	18.66	20.85	20.87	35.4	18.3

Source: Eurostat database, access data 27.09.2018;

As regards the area under tomatoes, Romania ranks 4th by countries such as Turkey (177,000 hectares), Italy (103,000 hectares) or Spain (60,000 hectares), which cultivate areas significantly larger than Romania, but before Portugal exploiting an area of 20.8 thousand hectares at the level of 2017, by 6.1% lower (Table no. 2).

Table no. 3. Evolution of tomato production in the period 2012-2017 (thousand tons)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average yield / ha (t / ha)
Turkey	11350.00	11820.00	11850.00	12615.00	12600.00	12750.00	12.3	72.0
Italy	5131.98	5321.25	4498.08	6410.25	5990.52	6437.57	25.4	61.9
Spain	4046.41	3776.80	4888.88	4832.70	5233.54	5184.85	28.1	85.2
Portugal	1394.42	1186.84	1399.54	1407.00	1693.86	1747.63	25.3	83.7
Greece	979.62	1117.56	1132.72	1148.36	1019.88	943.29	-3.7	-
Netherlands	805.00	855,00	900.00	890,00	890,00	910.00	13.0	-
Poland	758.90	761.50	810.60	789.60	866.98	898.01	18.3	-
France	763.48	775.63	786.10	787.88	827.61	771.55	1.1	-
Romania	453.13	509.22	473.86	468.75	425.61	458.18	1.1	22.0

Source: Eurostat database, access data 27.09.2018;

Although Romania is one of the main countries according to the area cultivated with tomatoes, in terms of the production obtained, the situation is changing, with profits going under other countries such as Turkey, Italy, Spain, Portugal or Greece. It should be noted that the evolution of the obtained produces a oscillating trend, thus showing the dependence on weather conditions. Also the average production recorded in year 2017 to 22 t / ha, well below average yields achieved by Turkey (72 t / ha), Italy (61.9 t / ha) and Spain (85.2 t / ha) (Table no. 3 ).

Table no. 4. The evolution of the area under tomato cultivated in protected areas during the period 2012-2017 (thousands of hectares)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average area
Turkey	25.00	24.00	23.00	25.00	26.00	28.00	12.0	25.2
Spain	18.48	19.72	21.13	19.41	19.98	18.95	2.5	19.6
Poland	2.20	2.20	3.10	3.10	3.25	3.23	46.8	2.8
Greece	2.80	2.98	3.06	2.82	2.59	2.21	-21.1	2.7
France	1.98	2.11	2.07	2.03	2.21	2.09	5.6	2.1
Serbia	0.00	0.00	0.00	0.00	1.50	1.84	-	0.6
Netherlands	1.69	1.77	1.78	1.76	1.78	1.79	5.9	1.8
Romania	1.40	1.47	1.62	1.65	1.73	1.71	22.1	1.6

Source: Eurostat database, access data 27.09.2018;

Romania has an increase in the area cultivated with tomatoes in protected areas (except in 2016), so that if in 2012 a 1.4 thousand hectares were exploited, in 2017 it was 1.71 thousand hectares, in an increase of 22.1%. Also, the largest area cultivated with tomatoes in protected areas is owned by Turkey in 2017, operating an area of 28,000 hectares, up 12% over the area planted in 2012 (Table no. 4).

Table no. 5. Evolution of tomato production in protected areas during 2012-2017 (thousand tons)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average annual yield / ha (t/ha)
Turkey	3096.00	3118.00	3203.00	3315.00	3522.00	3796.00	22.6	135.6
Spain	-	-	-	1835.31	2027.86	1846.99	-	97.5
Netherlands	809.00	855.00	900.00	890.00	890.00	910.00	12.5	508.4
Poland	-	-	538.70	553.20	606.59	643.46	-	199.2
France	534.31	567.01	580.10	589.32	625.18	560.36	4.9	268.1
Greece	325.76	365.08	384.19	340.77	319.25	272.61	-16.3	123.4
Belgium	-	249.80	249.25	253.05	259.54	259.69	-	-
Romania	49.57	60.23	75.93	79.41	98.52	100.49	102.7	58.8

Source: Eurostat database, access data 27.09.2018;

Together with the growth of tomato-growing areas, we can see that total production also has an upward trend, so that if in 2012 the production was 49 thousand tons, in 2017 it was over 100 thousand tons, increasing by over 100% (Table no. 5).

It should be noted that the average annual production is much under other countries, being 58.8 t / ha, compared to the average annual production of the Netherlands by 508.4 t / ha or France 268 t / ha (Table no. 5).

Table no. 6. Evolution of the sales price of tomatoes grown in the field during 2012 -2017 (euro / 100 kg)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average sales price
Malta	66.89	61.55	67.47	96.34	78.22	98.15	46.7	78.1
Czech Republic	82.91	69.59	73.72	87.32	91.07	86.23	4.0	81.8
Italy	72.24	68.17	69.47	81.12	78.70	79.10	9.5	74.8
Slovakia	68.79	66.7	66.48	63.91	68.78	71.31	3.7	67.7
Romania	67.5	53.63	72.24	60.74	68.37	69.82	3.4	65.4
Portugal	68.46	62.05	67.84	72.67	82.22	64.06	-6.4	69.6
Croatia	61.42	46.58	54.06	44.17	58.45	56.44	-8.1	53.5
Hungary	63.66	52.12	59.35	24.23	62.70	53.33	-16.2	52.6
Greece	47.45	45.45	45.33	48.35	45.06	47.32	-0.3	46.5
Poland	30,26	35.82	40.19	43.13	32.63	38.37	26.8	36.7
Bulgaria	32.47	23.94	45.94	23.66	32.27	33.32	2.6	31.9

Source: Eurostat database, access data 27.09.2018;

In 2017, the highest price of tomatoes grown in the field was recorded in Malta, of about 1 euro / kg of tomatoes, up 46.7% compared to 2012. The opposite was Bulgaria, where the price of selling tomatoes grown in the field was 0.33 euro / kg, slightly higher than in 2012 (Table no. 6).

Regarding Romania, it is noted that the evolution of the sale price of tomatoes shows an oscillating trend, with significant variations between 0.53 euro / kg (in 2013) and 0.72 euro / kg (registered in 2014) (Table no. 6).

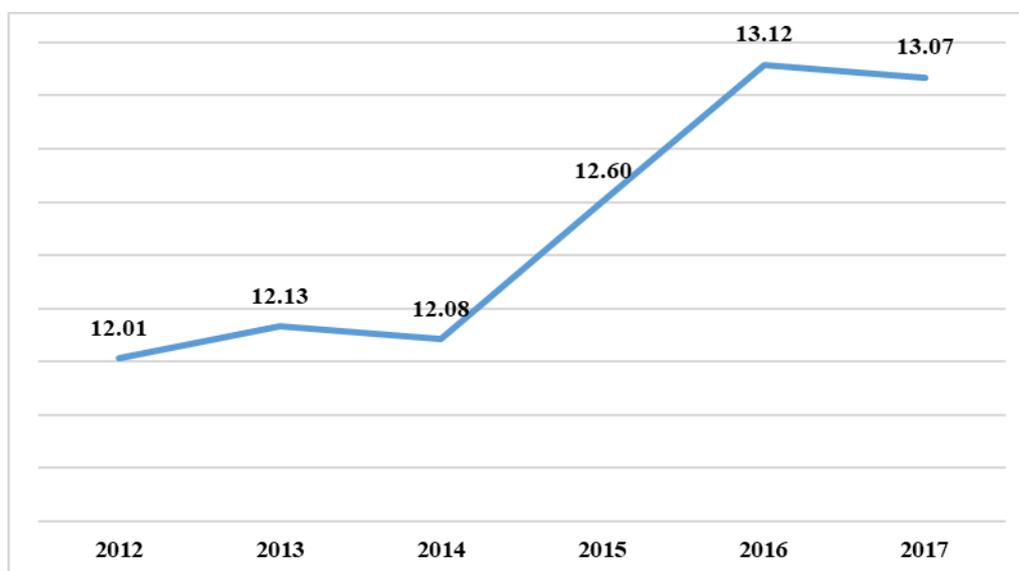
Table no. 7. Evolution of the sale price of tomatoes grown in protected areas during 2012 -2017 (euro / 100 kg)

The country	2012	2013	2014	2015	2016	2017	2017/2012	Average sales price
Finland	173.88	176.6	168.69	168.13	169.33	172.04	-1.1	171.4
Ireland	130	130	140	140.00	140.00	140.00	7.7	136.7
Sweden	128.67	135.7	141.36	143.63	135.94	137.37	6.8	137.1
UK	97,22	69.08	74.85	68.73	60.12	130.15	33.9	83.4
Latvia	114.68	100.96	103.68	128.04	129.64	125.99	9.9	117.2
Denmark	104.59	101.7	107.1	111.41	126.76	112.64	7.7	110.7
Romania	89.48	107.49	96.54	101.23	63.91	94.12	5.2	92.1
Cyprus	57,00	53.60	56.80	56.90	80.20	91,00	59.6	65.9
Austria	76.3	86.38	74.87	88.19	84.65	85.50	12.1	82.6
Lithuania	83.16	68.84	81.30	84.86	77.21	83.93	0.9	79.9
Hungary	75.68	68.37	74.55	77.83	69.58	77.20	2.0	73.9
Croatia	80.97	71.25	79.45	83.52	72,58	72.38	-10.6	76.7
Belgium	74.22	60.2	65.23	66.93	68.56	70.21	-5.4	67.6
Netherlands	66	54.28	60.92	72.55	60.53	65.53	-0.7	63.3
Portugal	55.57	51.11	51.40	60.68	56.92	60.56	9.0	56.0
Bulgaria	43.2	53.05	55.78	53.27	48.38	50.83	17.7	50.8

Source: Eurostat database, access data 27.09.2018;

Concerning the price of tomatoes grown in protected areas, we note that at the level of 2017 the highest price was registered by Finland (1.72 euro / kg). Also, high prices of tomatoes grown in protected areas are particularly common in northern countries. Romania ranks halfway with a sales price of 0.94 euro / kg, up 5.2% over 2012 (Table no. 7).

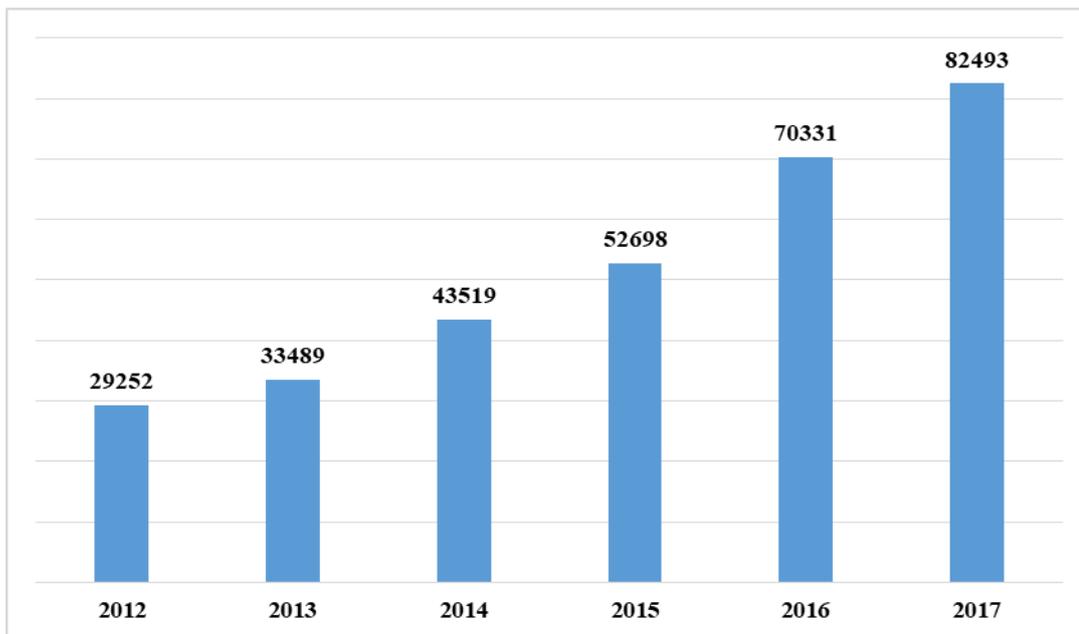
The evolution of the sales price has an oscillating trend, with significant variations between 0.63 euro / kg (in 2016) and 1.07 euro / kg (registered in 2017) (Table no. 7).



Source: INSE database, access data 27.09.2018;

Figure no. 1. Evolution of annual consumption of tomatoes / capita in 2012-2017 (kg / year)

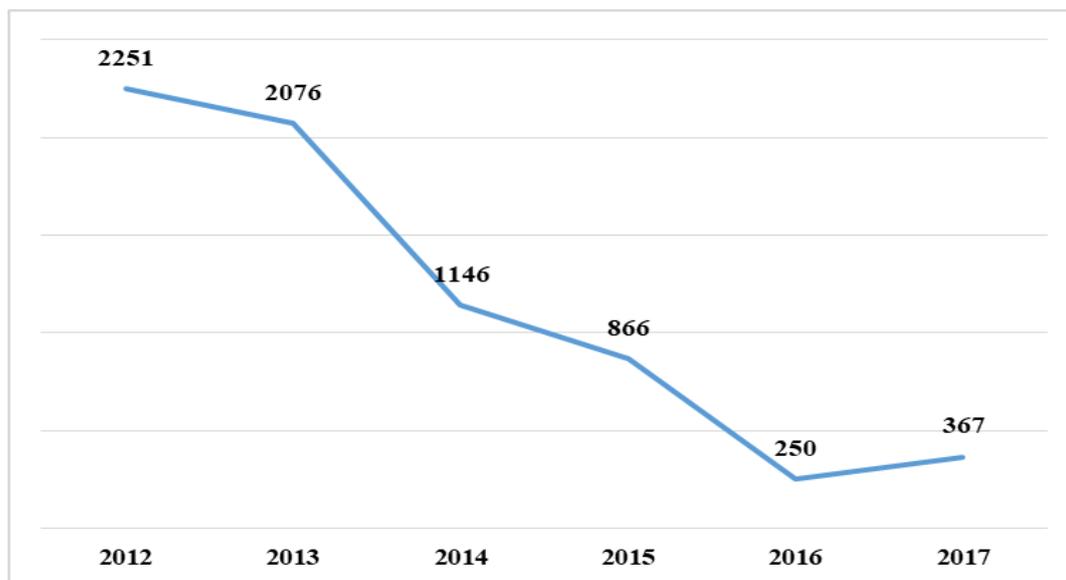
As regards annual consumption of tomatoes per capita, there is a significant increase since 2015, when annual consumption was 12.6 kg / capita, compared to 2014 when it was 12.08 kg / per capita (Figure no. 1).



Source: Trademap database, access data 27.09.2018;

Figure no. 2. Evolution in terms of value of tomato imports in Romania during the period 2012-2017 (thousand euros)

Tomato imports in Romania registered an upward trend, so that if in 2012 their value was 29.2 million euros, in 2017 they exceeded 82.4 million euros. Among the main countries from which Romania imported tomatoes are: Turkey, Germany and the Netherlands (Figure no. 2).



Source: Trademap database, access data 27.09.2018;

Figure no. 3. Developments in terms of value of tomato exports in Romania during 2012-2017 (thousand euros)

As far as tomato exports are concerned, there is a downward trend, so that if in 2012 they were 2.2 million, in 2017 it was only 367 thousand euros, down by about 84% (Figure no. 3).

At the level of 2017, Romania exported to countries like Moldova, Spain or Poland (Figure no. 3).

## CONCLUSIONS AND RECOMMENDATIONS

Total crop yields of field tomatoes exhibit significant oscillations, influenced directly by cultivation areas, but also by climatic factors that play a particularly important role in achieving significant production, both quantitatively and qualitatively.

With the growth of tomato-grown areas in protected areas, higher total yields have been achieved, but despite this, the average annual production is well below other states, with the difference being mainly made by the technology used.

It should be noted that although significant amounts of money were allocated in 2017 to support the production of tomatoes in protected areas, this is also not reflected in their sales price, so if in 2016 the selling price was 0,63 euro / kg, one year later was 0.94 euro / kg, an increase of about 50%. A reason for this increase was due to the weather conditions that affected the infrastructure, thus delaying their production.

Due to the increase in living standards, this is also reflected in the evolution of annual consumption of tomatoes per capita, which is significantly influenced by the fluctuations in the sales price of tomatoes.

Although the production of tomatoes grown in protected area has increased, Romania fails to cover the needs of tomatoes in extra-seasonal periods (especially) and it is necessary to resort to imports from Turkey, Germany or the Netherlands. Also, their lower sales price (due to higher yields) plays an important role in the choice of product by the Romanian consumer.

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