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# STUDY REGARDING THE VEGETABLE MARKET IN ROMANIA IN THE PERIOD 2015-2019

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**Abstract:** *The paper presents the vegetable market in the period 2015-2019 in Romania, highlighting aspects such as: cultivated area of vegetables, vegetable production, price dynamics, average annual consumption, domestic and foreign trade. The fruit and vegetable market is one of the most important sectors of the world economy, so in this paper I proposed a five-year analysis to see the evolution of this sector in Romania. The research method used in the study is statistical processing and economic analysis of existing data for the period 2015-2019 on specialized sites such as the National Institute of Statistics (NIS), Eurostat, FAO, Ministry of Agriculture and Rural Development (MADR) but and other specialty materials.*

**Keywords:** *vegetable market, consumption, price dynamics*

**JEL Classification:** *Q11;Q13;L11.*

## INTRODUCTION

In this article I will analyze some of the most important vegetables available to any Romanian, namely tomatoes, peppers, cucumbers, onions, cabbage and potatoes.

In Romanian agriculture there are many vegetable species, due to the high natural fertility of the soils and the diversity of the climate. Apart from the favorable pedoclimatic conditions for the production of fruits and vegetables, Romania still does not have in agriculture, for the most part, the requirements and technical facilities characteristic of the market economy.

Vegetables can be considered the basis of a healthy diet as they are rich in vitamins, fiber and phytonutrients and therefore it is mandatory to eat as many fresh colored vegetables and less heat. Vegetables are without a doubt a source of health, longevity and beauty.

The price level is influenced by a multitude of factors, of which the ones related to consumer demand are predominant. Trends and delimitations can be mentioned for the prices of these products such as: the price level must cover production costs, due to the seasonal nature of production prices fluctuate from one month to another, the different level of prices which is influenced by the quality of vegetables, the degree prices may differ depending on the destination (fresh or processed consumption, etc.) or the potential market for the products (domestic or export).

Vegetable growers and fruit growers are threatened by large hypermarkets but also by massive imports. On the one hand, large chain stores refuse to buy goods at a fair price, and on the other hand, imports compete with domestic production.

Approximately 50 - 60% of the Romanian production of fruits and vegetables is sold in peasant markets organized in urban centers and at the farm gate. Although prices are on the rise, even when farmers have entered into commercial contracts, the beneficiaries do not come to pick up the goods until prices have fallen.

The emergence of large chain stores, the change of consumer preferences towards sorted, packaged and labeled products that respect the principles of quality and food safety continue to reduce the percentage of production sold at the farm gate in favor of organized markets. However, this percentage is also decreasing as a result of the intensification of trade through intermediaries.

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Romanian fruits and vegetables, even if in all cases they do not have a commercial aspect that satisfies the consumer's requirements, have special nutritional qualities

A decisive role is played in this respect by the producer organizations, whose main objective is the supply concentration bag, in order to be able to ensure a qualitative and quantitative capitalization of the obtained production, at an advantageous price.

## MATERIAL AND METHOD

The research method used in the study is statistical processing and economic analysis of data. This paper analyzed the vegetable market in 2015-2019 highlighting aspects such as: total cultivated areas, total vegetable production, price dynamics, consumption, import and export by consulting agricultural materials (books, magazines, scientific papers) and specialized sites (INS, MADR, EUROSTAT, FAOSTAT, etc.).

## RESULTS AND DISCUSSIONS

As I said in the summary in this article I set out to analyze the vegetable market focusing on issues such as: total cultivated area of vegetables, vegetable production, price evolution, average annual consumption, domestic and foreign trade at national level.

In Romania, according to the statistical data registered by NIS (table 1) regarding the cultivated area of vegetables (thousand ha) in the period 2015-2019, we observe a decrease in 2019 compared to 2015, namely in 2015 we had an area of 239.5 thousand ha and in 2019, an area of 227.7 thousand ha was registered.

The main causes that led to this decrease are the large number of small farms, high technological costs (irrigation water, energy) especially for protected areas here and the decrease in national vegetable production (Table 2).

Analyzing the total production of vegetables at national level, we notice that in 2015 the value of vegetable production was 3674 thousand tons and in 2019 there was a value of 3530 (thousand tons) a decrease of 144 thousand tons.

Table no.1 Total vegetable area registered in Romania 201-2019 (thousand ha)

PERIOD	2015	2016	2017	2018	2019
<i>Total area of vegetables (thousand ha)</i>	239,5	228,1	224,5	226,3	227,7

Source:NIS

Graph no.1 Total area of vegetables in the period 2015-2019 (thousand ha)

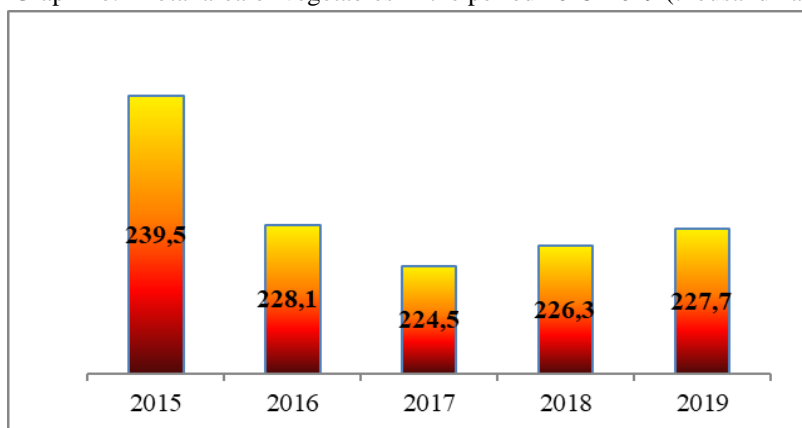
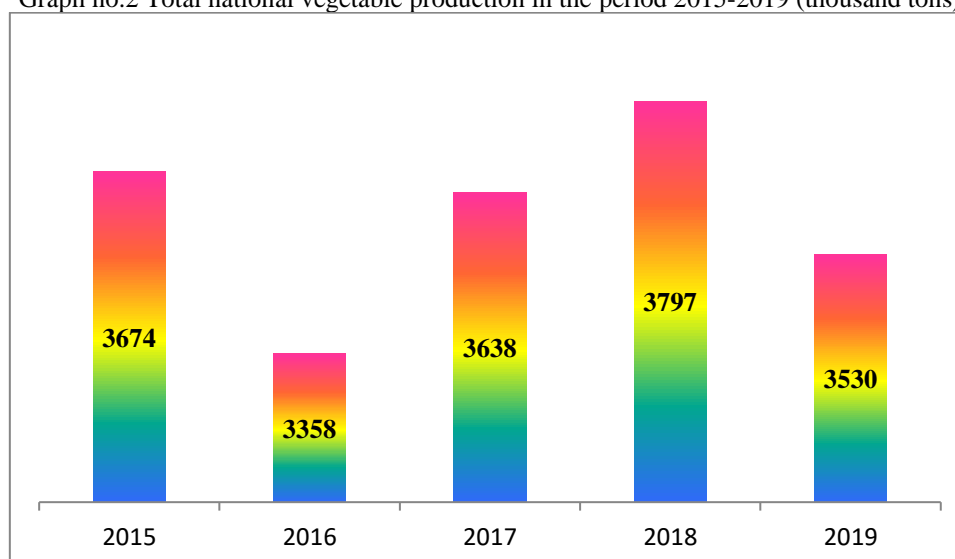


Table no.2 Total vegetable production registered in Romania 2015-2019 (thousand tone)

PERIOD	2015	2016	2017	2018	2019
Total vegetable production (thousand tone)	3674	3358	3638	3797	3530

Source:NIS

Graph no.2 Total national vegetable production in the period 2015-2019 (thousand tons)



Regarding the evolution of prices (table no. 3) for vegetables, I chose to analyze six of the most important vegetables, namely tomatoes, bell peppers, cucumbers, onions, cabbage and potatoes that are not missing from any romanian's house.

Analyzing the data provided by the National Institute of Statistics (NIS) we observe the following:

The highest price for tomatoes was recorded in 2019 with a value of 2.50 lei / kg and the lowest value was in 2015 with a value of 1.12 lei / kg resulting in an increase of 1.38 lei / kg in 2019.

For bell peppers we have a maximum of 2.46 in 2019 and a minimum of 1.15 lei / kg in 2015 resulting in an increase in 2019 compared to 2015 of 1.31 lei / kg .

Regarding the price of cucumbers, the highest value was registered in 2019 with a price of 2.13 lei / kg and the lowest price is in 2015 with a value of 1.13 lei / kg resulting in an increase in year 2019 of 1 lei / kg.

The maximum value for onions was reached in 2019 with a value of 3.78 lei / kg and the lowest value was reached in 2017 with a value of 2.15 lei / kg being a considerable increase of 1.63 lei / kg.

Regarding the price of early and summer white cabbage in 2016, the lowest value of the analyzed period was registered, namely 1.38 lei / kg and in 2018 the cabbage reached the price of 2.93 lei / kg an increase of 1.55 lei / kg.

The lowest value recorded for autumn potatoes was in 2015 with a value of 0.70 lei / kg and the highest value was recorded in 2019 with a value of 1.38 an increase of 0.68 lei / kg.

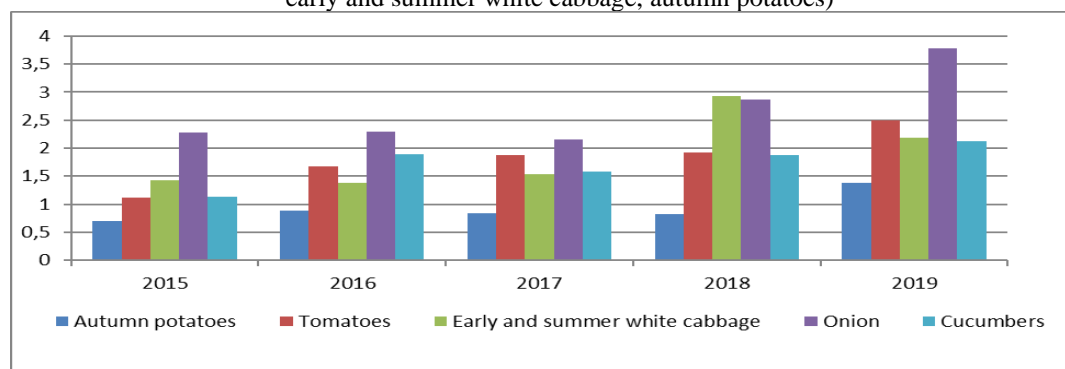
Possible causes that led to higher prices for most vegetables in 2019 could be unfavorable weather conditions that led to lower production, higher production costs (from arranging the land for sowing / cultivating seedlings, to obtaining own production -said, of the finished product), labor shortage, etc.

Table no.3 The evolution of prices registered in Romania during 2015-2019

Nomenclature of agricultural products purchased from agricultural producers	Unit	PERIOD				
		2015	2016	2017	2018	2019
Tomatoes	lei/kg	1,12	1,68	1,88	1,92	2,5
Bell peppers	lei/kg	1,15	1,52	1,81	2,26	2,46
Cucumbers	lei/kg	1,13	1,89	1,58	1,87	2,13
Onion	lei/kg	2,28	2,29	2,15	2,86	3,78
Early and summer white cabbage	lei/kg	1,42	1,38	1,53	2,93	2,19
Autumn potatoes	lei/kg	0,7	0,88	0,84	0,82	1,38

Source:NIS

Chart no.3 Price dynamics in the period 2015-2019 (tomatoes, bell peppers, cucumbers, dried onions, early and summer white cabbage, autumn potatoes)



Source:NIS

Regarding the consumption of vegetables in the period 2014-2018 we notice from the statistical data provided by NIS(National Institute of Statistics) that in 2018 compared to 2014 the consumption of fruits increased considerably, namely in 2014 we have a consumption of 158 kg / consumer and in 2018 it was recorded a consumption of 173.5 kg / consumer which we can deduce the fact that the Romanian started consuming more vegetables which is a good thing.

Table no.4 Vegetable consumption in Romania in the period 2014-2018 (kg / consumer)

Main food and beverages	Unit	PERIOD				
		2014	2015	2016	2017	2018
Vegetables and vegetable products equivalent to fresh vegetables	kg/consumer	158	158,5	155,8	162,1	173,5

Source:NIS

Graph no.4 Vegetable consumption in the period 2014-2018 (kg / consumer)

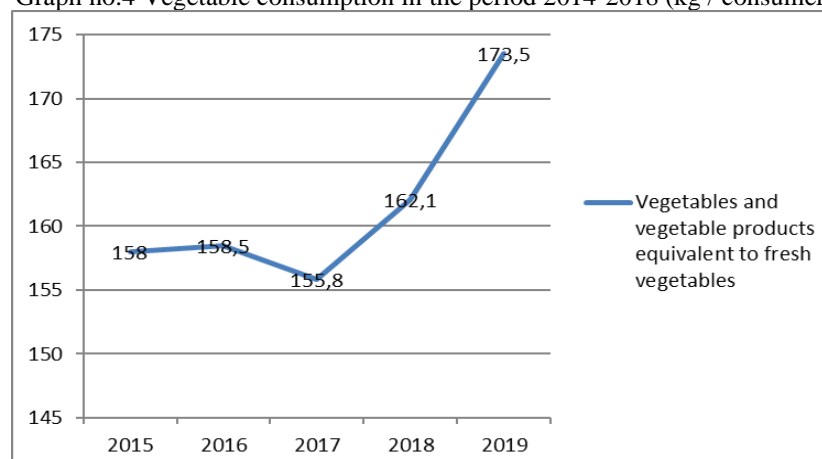


Table no.5 The value of import in the period 2015-2019 (thousand euro)

GROUPS ACCORDING TO THE COMBINED NOMENCLATURE	MONETARY UNIT	PERIOD				
		2015	2016	2017	2018	2019
Potatoes, fresh or chilled	thousand of euro	19783	37174	35533	28829	65852
Tomatoes, fresh or chilled	thousand of euro	54385	73049	86118	90937	94973
Cabbage, cauliflower, kale, goulash and similar edible products of the genus Brassica, fresh or chilled	thousand of euro	12048	14555	14451	17042	22846
Carrots, turnips, beetroot for salads, goat beard, celery root, radishes and similar edible roots, fresh or chilled	thousand of euro	18244	19488	18456	27987	34170
Cucumbers and cornis, fresh or chilled	thousand of euro	11207	16950	19252	18503	18512

Source:INS

Graph no.5 The value of vegetables imports in the period 2015-2019 (thousand euros)

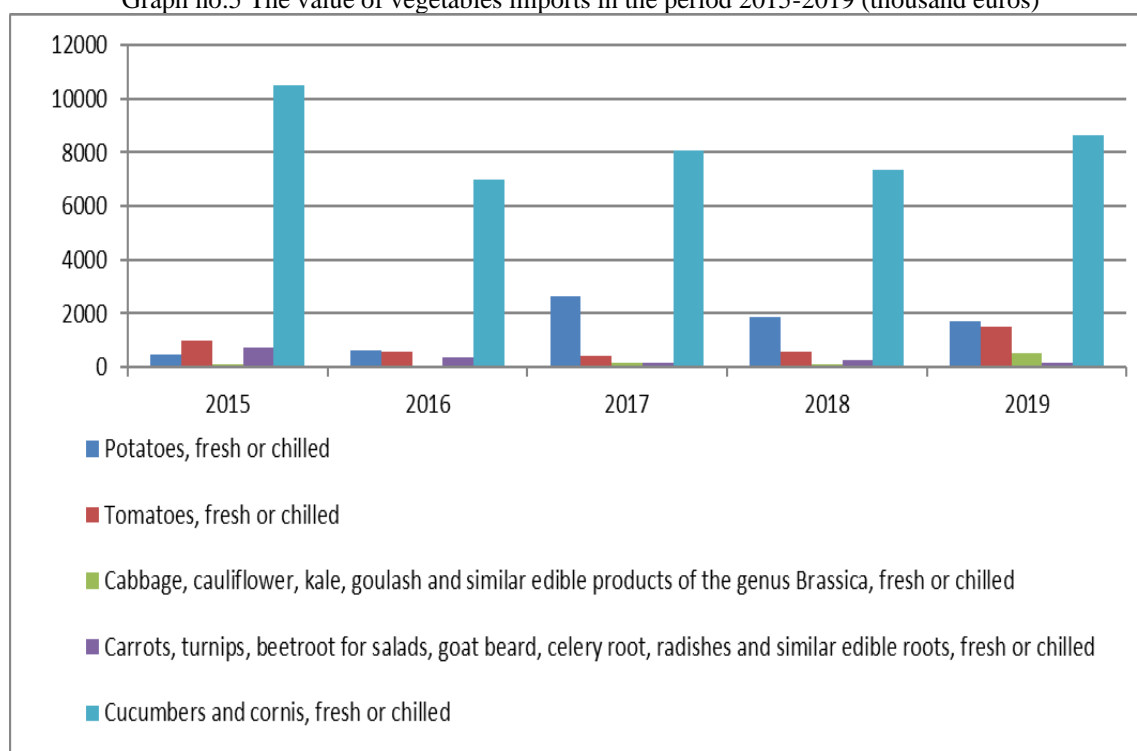
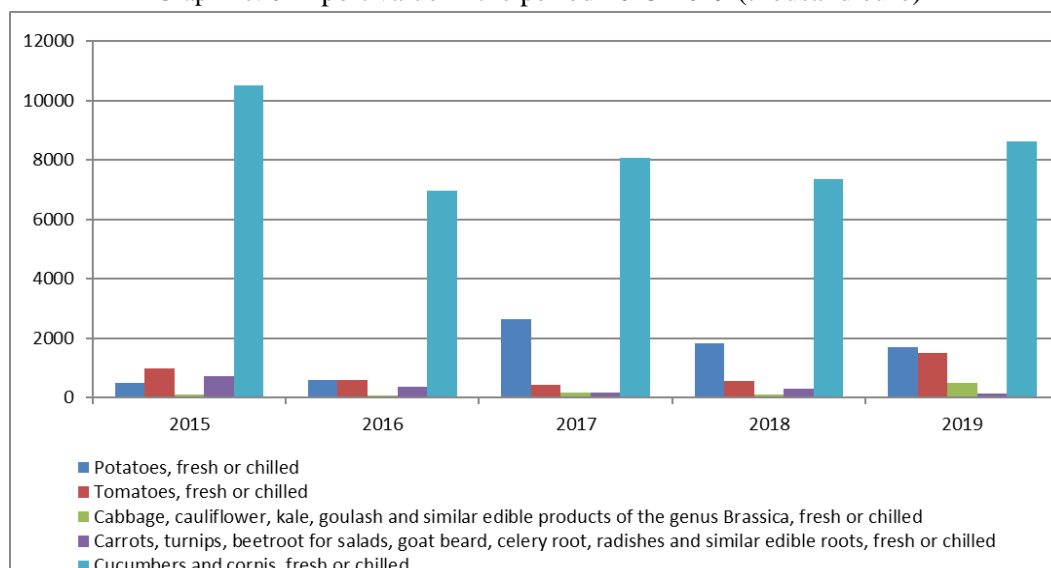


Table no.6 The value of vegetable exports in the period 2015-2019 (thousand euro)

GROUPS ACCORDING TO THE COMBINED NOMENCLATURE	MONETARY UNIT	PERIOD				
		2015	2016	2017	2018	2019
Potatoes, fresh or chilled	thousand of euro	487	607	2630	1844	1687
Tomatoes, fresh or chilled	thousand of euro	972	581	428	553	1511
Cabbage, cauliflower, kale, goulash and similar edible products of the genus Brassica, fresh or chilled	thousand of euro	115	76	183	111	500
Carrots, turnips, beetroot for salads, goat beard, celery root, radishes and similar edible roots, fresh or chilled	thousand of euro	714	358	173	286	145
Cucumbers and cornis, fresh or chilled	thousand of euro	10496	6971	8085	7361	8634

Source:INS

Graph no. 6 Export value in the period 2015-2019 (thousand euro)



Source:INS

If we analyze the value of imports regarding the statistical data recorded by INS in the period 2015-2019 we notice (chart no.5) that in 2019 compared to 2015 the import increased considerably for potatoes, tomatoes and cabbage and for carrots and cucumbers the import decreased in the same mentioned period.

From the statistical data registered by INS (graph 5) it is observed that the highest import was registered in 2015 for cucumbers with a value of 10496 thousand euro and the lowest value was in 2016 for cabbage with a value of 76 thousand euro.

In chart no.7 the highest value of imports was registered in 2017 with a value of 49443 thousand euro and the lowest value was in 2014 with 20482 thousand euro.

Regarding the value of exports (table no. 6) in 2019 the highest values were recorded for cucumbers with a total of 8634 thousand euro, followed by potatoes with 1687 thousand euro and tomatoes with 1511 thousand euro.

The lowest values recorded in 2019 regarding exports were for cabbage with 500 thousand euro in 2019 were for cabbage with 500 thousand euro and carrots with 145 thousand euro for the same year.

## CONCLUSIONS

The vegetable market is one of the most important sectors of the world economy and has always been an area of interest for public health.

According to the INS, the total area of vegetables (thousand ha) was decreasing in 2019 compared to 2015, registering a total value of 227.7 thousand ha in 2019 and in 2015 239.5 thousand ha.

Regarding the total vegetable production in 2019, a total of 3530 thousand tons was registered and in 2015 the total production was 3674 thousand tons, which results in a significant decrease.

From the data provided by INS on the price of vegetables we see an increase in all vegetables analyzed (tomatoes, bell peppers, cucumbers, onions, cabbage, potatoes). Possible causes, being determined by unfavorable climatic conditions (drought), resulting in lower production, disease / pest infestation as well as production costs.

Vegetable consumption has an increasing trend in 2018 compared to 2015, namely in 2018 we have a consumption of 173.5 kg / consumer, and in 2014 the consumption was 158 kg / consumer.

The value of imports has an increasing trend for all analyzed vegetables (potatoes, tomatoes, cabbage, carrots, cucumbers) which is a cause for concern. The main suppliers of vegetables are the Netherlands, Poland, Germany, Turkey, Spain, Greece etc.

According to the INS, the value of exports in the period 2015-2019 in Romania was increasing in 2019 for cucumbers, cabbage and tomatoes and the value of exports for potatoes and carrots was decreasing in 2019 compared to 2015.

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