

## STUDY REGARDING THE PRODUCTION AND MARKETING OF STRAWBERRIES IN ROMANIA

Elena SOARE, Irina-Adriana CHIURCIU

University of Agronomic Sciences and Veterinary Medicine Bucharest of Bucharest, 59 Marasti Boulevard, District 1, 011464, Bucharest, Romania, Phone: +40213182564, Fax: +40213182888, Mobile: +40744 6474 10, Emails: soare.elena@managusamv.ro, chiurciu.irina@managusamv.ro

**Corresponding author:** soare.elena@managusamv.ro

### Abstract

*The present study highlights aspects related to the production and marketing of strawberries in Romania, in the period 2014-2019. Specific indicators were presented and analyzed in the paper, such as: areas cultivated with strawberries; strawberry production; the price for strawberries; quantitative imports and exports; value imports and exports, for the category "Strawberries". Romania imports annually the equivalent of 40% of the strawberry production made domestically, which highlights the fact that there are a number of opportunities for local farmers who want to start businesses in this sector of activity. The strawberry crop is suitable in most regions of Romania and can have a yield of over 20 tons of fruit per hectare. The aspects regarding the production and commercialization of strawberries in Romania were captured especially, from a quantitative point of view. The statistical data underlying this study were taken from the FAOSTAT website.*

**Key words:** strawberries, production, imports and exports, Romania

### INTRODUCTION

Today, strawberry culture is found in many regions of the globe, because it has been found that fruits are on the one hand, an important source of minerals and vitamins for the human body, and on the other hand, they are used in various industries [1]. The strawberry is part of the Rosaceae family, which includes over 20 species and a series of hybrids [2].

In Romania, most soils are friendly for strawberry cultivation, and due to this fact, strawberry can be grown in most regions, and the yield per hectare can be 20-25 tons of fruits [2, 4].

Specialists in the field have highlighted the fact that the adaptability, productivity and quality of the strawberry crop are determined in a significant proportion by the following factors: temperature; disease resistance; tolerance to different types of soil etc. [1].

In Romania, there are many varieties of strawberries that directly influence the level of productivity, such as: Premial variety; Dana variety; Elsanta variety; Magic variety; Florance variety; Talisman variety; Elvira variety etc. [2].



Photo 1. Elsanta variety  
Source: [7].

It is necessary to specify some varieties of remontant strawberries that can bear fruit up to 10 months a year with a very short break between production cycles. These remontant varieties present on the one hand, a series of advantages, and on the other hand, a series of disadvantages. The main advantages specific to remontant varieties are: sports yield; special disease resistance; larger fruits; can be kept in good condition; rapid ripening of fruits; self-pollination [5].

Currently, in Romania, the cost related to the establishment and maintenance of one hectare is approximately 9,000 euros. According to specialists, around 5,300 euros is the investment for quality stolons [4].

In order to obtain an appropriate profit, it is necessary to irrigate the strawberry crop immediately after planting it. In terms of irrigation, it is recommended to be done by drip [8, 9].

Internally, strawberry culture can be an alternative for farmers in certain regions who own smaller areas of land and have a starting capital of less than 10,000 euros.

## MATERIALS AND METHODS

The present research captures a series of aspects regarding the production and sale of strawberries in Romania, in the period 2014-2019. In this sense, a series of specific indicators were analyzed, such as: the total areas cultivated with strawberries; strawberry production achieved; the price for strawberries; imports and exports both quantitative and value for the category "Strawberries". In order to carry out this study, on the one hand, various specialized materials were consulted, and on the other hand, statistical data provided by the FAOSTAT website were analyzed.

## RESULTS AND DISCUSSIONS

In Romania, the strawberry culture, respectively the culture of different berries represents an opportunity for the local farmers because:

- it can be cultivated on small areas, up to 5 ha [10];
- initial investments are lower compared to other crops;
- berries are demanded by consumers, on the one hand, due to the pleasant taste, and on the other hand, because they have a number of nutritional characteristics beneficial to human health;
- the demand for berries increased significantly, both on the domestic market, but especially on the foreign market;

-it contributes to job creation in certain regions, where there are no other types of activities;

-it can bring significant long-term profits to farmers, with the condition that they have patience for 2-3 years to recover their investment [10].



Photo 2. Strawberry plantation

Source: [9].

Specialists in the field have identified those categories of berries that are profitable on small areas of land: strawberries; blueberries; blackberries; sea buckthorn and raspberries [10].

According to the official data published by Faostat, the area cultivated with strawberries in Romania changed, from year to year during the analyzed period (Fig.1.).

This area cultivated with strawberries was on a positive trend, starting from 2014, until 2017. In 2018, there was a slight decrease compared to 2017.

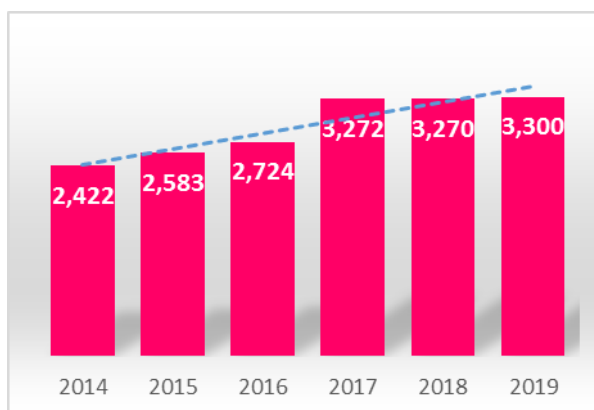


Fig. 1. Area cultivated with strawberries in Romania, for the period 2014-2019 (hectares)

Source: Own design based on FAOSTAT database 2021 [3].

The smallest cultivated area with strawberries in Romania was registered in 2014 (2,422 ha), and the largest cultivated area was of 3,300 ha (2019).

From the presented data it is observed that, in 2019, the area cultivated with strawberries, in Romania, increased by 36.2% compared to 2014.

In 2019, according to official data worldwide, the area cultivated with strawberries was 396,401 ha, and Romania cultivated 0.83% of the area attributed for this crop. In the European Union, also in 2019, 105,784 ha were cultivated with strawberries, and Romania owned 3.11% of the cultivated area. In the medium and long term, an increase in strawberry cultivated areas is expected in Romania, especially due to the growing interest of young farmers.

From the data presented regarding the production of strawberries obtained in Romania, it was found that it varied from one year to another, during the period under analysis (Fig. 2.). The highest strawberry production achieved in Romania was 27,050 tons (2017), and the lowest production was 21,587 tons (2015).



Photo 3. Hanging strawberries  
Source: [6].

In 2019, the domestic production of strawberries increased by 3.1%, compared to 2014, but decreased by 16.4% compared to 2017, when the maximum production was reached.

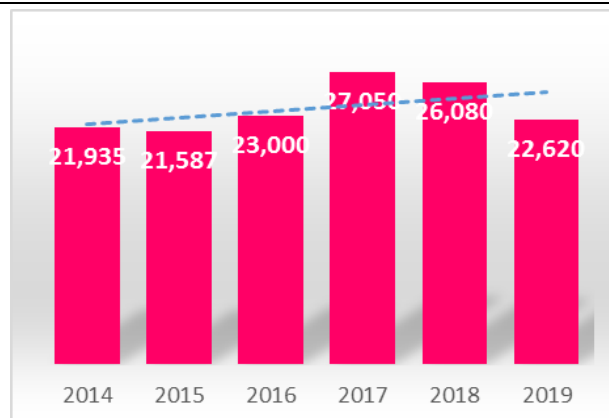


Fig. 2. Strawberry production in Romania, for the period 2014-2019 (tons)

Source: Own design based on FAOSTAT database 2021 [3].

The price for strawberries in Romania registered changes in the period 2014-2019 (Fig. 3.). The lowest price was 1,118.4 USD/ton (2016), and the highest was 1,537.6 USD/ton (2018). In 2019, the price for strawberries decreased by 5.3% compared to 2014.

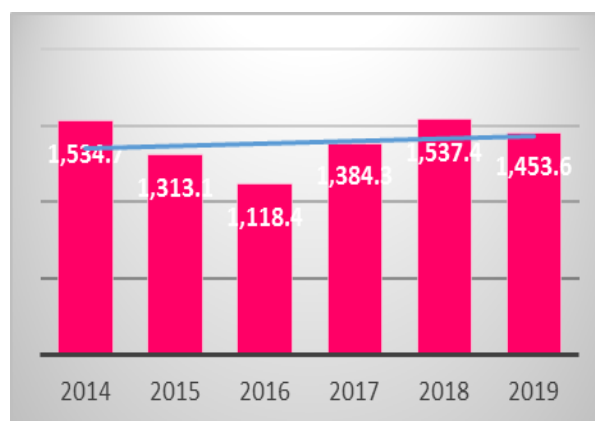


Fig. 3. Price for strawberries in Romania, for the period 2014-2019 (USD / ton)

Source: Own design based on FAOSTAT database 2021 [3].

Quantitative imports of strawberries made by Romania during the analyzed period varied from one year to another, due to domestic demand and also for the charged price (Fig.4.). The most significant quantitative imports of strawberries were 9,124 tons, in 2019. The smallest quantitative imports were 4,454 tons in 2015. From the presented data it can be observed that in 2019, the quantitative imports with strawberries doubled compared to 2014.

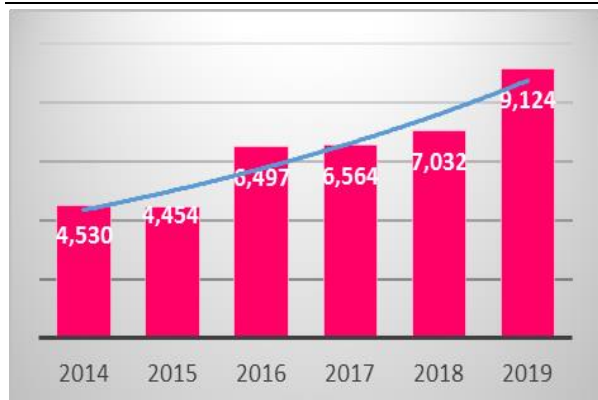


Fig. 4. Quantitative imports of strawberries in Romania, for the period 2014-2019 (tons)

Source: Own design based on FAOSTAT database 2021 [3].

Romania, in 2019 accounted for 1.78% of the quantitative imports made in the European Union for the category "Strawberries".

The most significant importers of strawberries registered worldwide for 2019: United States of America (186,499 tons); Germany (128,105 tons); Canada (96,192 tons); France (64,357 tons); United Kingdom of Great Britain and Northern Ireland (53,379 tons). In 2019, Romania imported only 14.1% of the quantity of strawberries imported by France, which proves that the consumption of strawberries in Romania is lower, compared to other countries in the European Union. The low level of strawberry consumption is due to several factors, especially of economic nature. Romania's value imports registered for the "Strawberries" category were substantial in the analyzed period and were on an upward trend (Fig. 5).

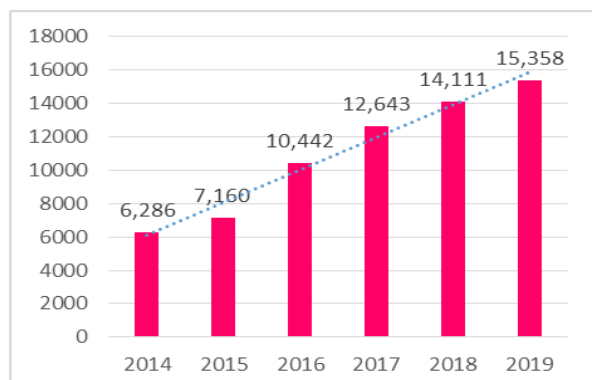


Fig. 5. Romania's value imports for the category "Strawberries", for the period 2014-2019 (thousand dollars)

Source: Own design based on FAOSTAT database 2021 [3].

The lowest value imports were recorded in 2014 (\$ 6,286 thousand), and the highest value imports were \$ 15,358 thousand (2019). From the presented data it can be observed that in 2019, the value imports increased by 144.3%, compared to 2014. In 2019, Romania, accounted for 0.11% of the value imports made in the European Union for the category "Strawberries".

Romania's quantitative exports of strawberries in the period 2014-2019 were significantly lower than the quantitative imports, which shows us that our country cannot ensure the necessary consumption from domestic production. The most significant quantity of strawberries exported was registered in 2015 (255 tons) (Fig. 6). The smallest quantitative exports of strawberries were 7 tons (2016 and 2019). From the presented data it can be observed that in 2019, the quantitative exports of strawberries have diminished with 53.4% compared to 2014.

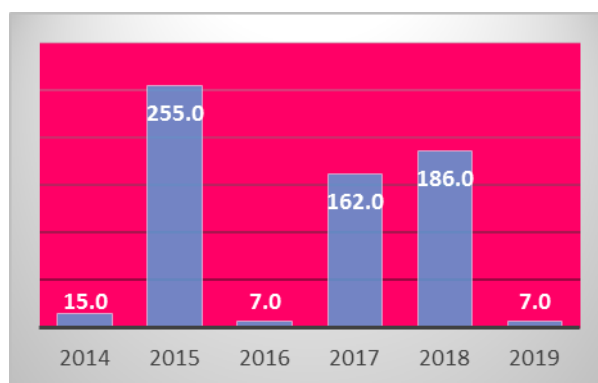


Fig. 6. Quantitative exports of strawberries in Romania, for the period 2014-2019 (tons)

Source: Own design based on FAOSTAT database 2021 [3].

In 2019, Romania registered 0.001% of the quantitative exports made in the European Union for the category "Strawberries".

It should be noted that in 2019, the top 5 exporters of strawberries registered worldwide consisted of: Spain (300,036 tons); Mexico (137,393 tons); United States of America (130,784 tons); Netherlands (57,071 tons) and Greece (45,175 tons). In 2019, Romania exported a quantity of only 7.0 tons of strawberries, which is an insignificant quantity. This demonstrates on the one hand, the fact that the production of strawberries in

Romania is low compared to the domestic need and the demand manifested on the international markets, and on the other hand, it draws a directive for the entrepreneurs interested in this sector of activity.

Regarding the value exports related to Romania for the "Strawberries" category, significant oscillations were registered from one year to another (Fig. 7.). The most substantial value exports were \$ 141 thousand (2015). It is necessary to specify the fact that the value exports in 2016 were of 11 thousand dollars, being the smallest, and in 2019, they were of 55 thousand dollars, for the same exported quantity. This significant difference was due to the fact that, in 2019, the price for strawberries was higher compared to the price for 2016.

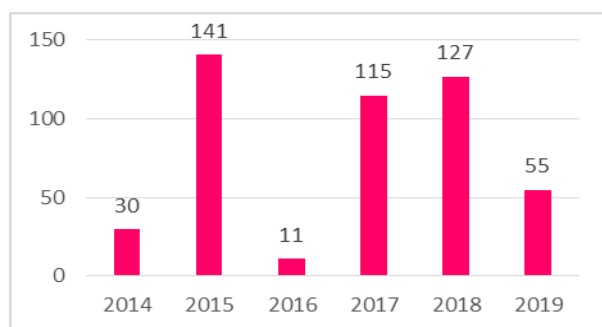


Fig. 7. Value exports of Romania for the category "Strawberries", in the period 2014-2019 (thousand dollars)

Source: Own design based on FAOSTAT database 2021 [3].

In the medium and long term, an increase in investments in the sector of production, processing and marketing of strawberries, as well as in the products obtained based on them, is foreseen.

## CONCLUSIONS

Following the analysis of the main indicators specific to the strawberry production and marketing sector in Romania, for the period 2014-2019 the following emerged:

- in 2019, the most significant area cultivated with strawberries was registered, of 3,300 ha;
- the highest strawberry production was recorded in 2017 (27,050 tons);
- domestic strawberry production, in 2019, increased by 3.1%, compared to 2014;

-the most significant price for strawberries was registered in 2018 (1,537.6 USD / ton), and the lowest price in 2016 (1,118.4 USD / ton);

-in 2019, the most significant quantitative imports of strawberries were made, of 9,124 tons, worth \$ 15,358 thousand;

-in 2015, there was the largest quantitative export of strawberries, of 255 tons, worth \$ 141 thousand.

Currently, in Romania there are both soils and varieties suitable for strawberry cultivation that can provide a large part of the population's consumption needs, but also significant quantities for export, if farmers' interest in this sector of activity increases.

## REFERENCES

- [1]Cociu, V., Botu, I., Serboiu, L., 1999, Advances in breeding of horticulture fruit in Romania, Vo.1. Fruits trees, Ceres Publishing House, Bucharest, pp.165-170. (Progrese în ameliorarea plantelor horticole din România, Volumul 1, Pomicultura, Editura Ceres, București, 1999, pp.165-170)
- [2]Dovancescu, O., 2017, Strawberry-everything you need to know (Căpșunul-tot ce trebuie să știi, 25 Iunie 2017), <https://www.pestre.ro/blog/capsunul-tot-ce-trebuie-sa-stii/>, Accessed on January 20, 2021.
- [3]FAOSTAT, 2021 <http://www.fao.org/faostat/en/#data>, Accessed on January 10, 2021.
- [4]Gimbășanu, G., 2015, The most profitable varieties of strawberries-bring income at least 22,000 euros per hectare (Cele mai profitabile soiuri de căpșuni aduc venituri cel puțin 22.000 de euro/ hectar, 2 Iunie 2015) <https://agrointel.ro/34566/cele-mai-profitabile-soiuri-de-capsuni-aduc-venituri-cel-putin-22-000-de-eurohectar/>, Accessed on January 15, 2021.
- [5]Gradinamax, 2020, Growing remontant strawberry crops,19 August 2020, (Creșterea culturilor de căpșuni remontante, 19 August 2020), <https://gradinamax.ro/articles/cresterea-culturilor-de-capsuni-remontante>, Accessed on January 28, 2021.
- [6]Gradinamax, 2020, Hanging strawberries (Căpșuni atârnaătoare), <https://gradinamax.ro/product/capsuni-atarnatoare>, Accessed on January 12, 2021.
- [7]New varieties of strawberry: Which are the most profitable and how they differ, 2017, Agrobiznes. M.D., (Soiuri noi de căpșun: Care sunt cele mai profitabile și cum se deosebesc, 2 Mai 2017) <https://agrobiznes.md/soiuri-noi-de-capsun-care-sunt-cele-mai-profitabile-si-cum-se-deosebesc.html>, Accessed on January 25, 2021.

[8]Plantation- strawberries. I (Plantare - capsuni.eu)  
<https://fermadecapsuni.ro/plantare/22.htm>, Accessed on  
January 29, 2021.

[9]Șerban, D., 2009, Strawberry culture. Strawberry  
cultivation methods, AgroRomania (Cultura  
capsunului. Metode de cultivare a căpșunilor,  
AgroRomânia, 11 Iulie 2009),  
<https://agroromania.manager.ro/articole/diverse/cultura-capsunului-metode-de-cultivare-a-capsunilor-46.html>],  
Accessed on January 10, 2021.

[10]Top of the most profitable crops on small, 2018,  
BASF (Topul celor mai profitabile culturi pe suprafețe  
mici, 17 Ianuarie 2018, BASF),  
<https://www.agro.basf.ro/ro/stiri/fermier-in-romania/topul-celor-mai-profitabile-culturi-pe-suprafete-small.html> , Accessed on January 25, 2021.