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# THE EVOLUTION OF THE FRUIT SECTOR IN ROMANIA BETWEEN 2010-2016

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**Abstract:** *In this article we analyze the current state of the fruit sector in Romania as well as the evolution of this sector between 2010-2016. Considering the importance of fruit consumption, this article aims to analyze the evolution of the surfaces, productions and average prices for the main inland fruits. Due to the decrease of the orchard surfaces and tree farms we can see variations in the productiveness per hectare, which leads to a high degree of imbalance in procurement. Sustaining the fruit sector is one of the primary directions of PNDR 2014-2020 through the Food-Growing Subprogram.*

**Key words:** *areas, production, productiveness*

**JEL Classification:** *Q13, L11*

## INTRODUCTION

Romania is a country with an agrarian tradition that has the favourable pedoclimate conditions thus developing in time a strong agriculture capable of insuring the intern consumption and to export.

Horticulture represents one of the most intensive sectors in agriculture, depending on the changing in the crop system of the species and varieties, it accentuates its enhancement degree.

Fruits are agro-alimentary products that are included in human every-day food, they help to maintain the healthy state of the consumers by having a content high in vitamins, iron, calcium and phosphorus mineral salts.

The cultivation of trees and fruit scrubs in Romania has been exercised for millennia, always having a tendency to modernize. Regarding the orchards and the nursery farms, the cultivated area in the private sector is of 0.78% of the county's total agrarian area.

Fruits have a special importance for the national economy due to their quality, as they are demanded by the population and the food industry. So, if for the corny and technical crops there are 10-12 basic varieties that are being produced, for the horticultural crops there are 35 brands of vegetables and 25 brands of fruits, to which it adds the products resulting from their processing.

A present-day problem consists of supplying quality fruits that are necessary in every-day diet as well as making a higher production per hectare. This objective (higher fruit production) must be fulfilled to insure the consumption of at least 50-60 kg of fresh fruits/inhabitant, which leads to a higher demand a bigger diversity of fresh fruits.

In order to satisfy the personal needs (self-consumption) there are enough areas of up to 400-500 sqm cultivated with different species and varieties and, for a commercial purpose, there are required surfaces that surpass a few hundred sqm, from 1000 -2000 sqm up to a few hectares, cultivated with one-two fruit-growing species.

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## MATERIAL AND METHOD

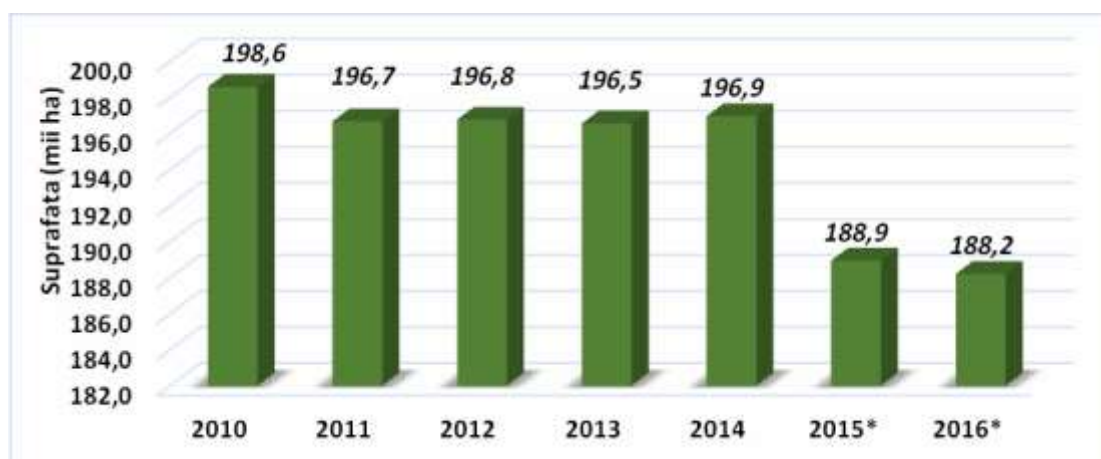
The present study uses the quantitative and qualitative analysis of the evolution of the fruit sector during 2010 - 2016 taking under consideration the physical indicators like the used agrarian area, the fruit production and the average prices, using the data supplied by INSSE and MADR as well as data from the field of study literature.

## RESULTS AND DISCUSSIONS

The fruit-growing activity holds an important spot in Romania's agriculture, having a long tradition.

The changes of ownership over the lands, the clearance of plantations on important surfaces, the aging of the fruit-growing plantations, the mincing of the orchard surfaces as well as the lack of interference from specialists in high importance technological workmanship or neglecting to perform them, have contributed to the decrease of the of the fruit-growing areas and the decrease of the workforce.

Diagram 1. The total surface of orchards and fruit-growing nursery gardens (thousand ha)



Source : INSSE

\* own calculations –estimated

From diagram nr.1 it's shown the fact that during 2010 – 2016 the total cultivated area with orchards and fruit-growing nursery moved to and fro, registering in 2015 a decrease of 1 % compared to last year.

The two important factors that caused the mincing of the fruit-growing surface and the interest in cultivating inland fruits have been the lack of funding and the high VAT which daunted investments in this sector.

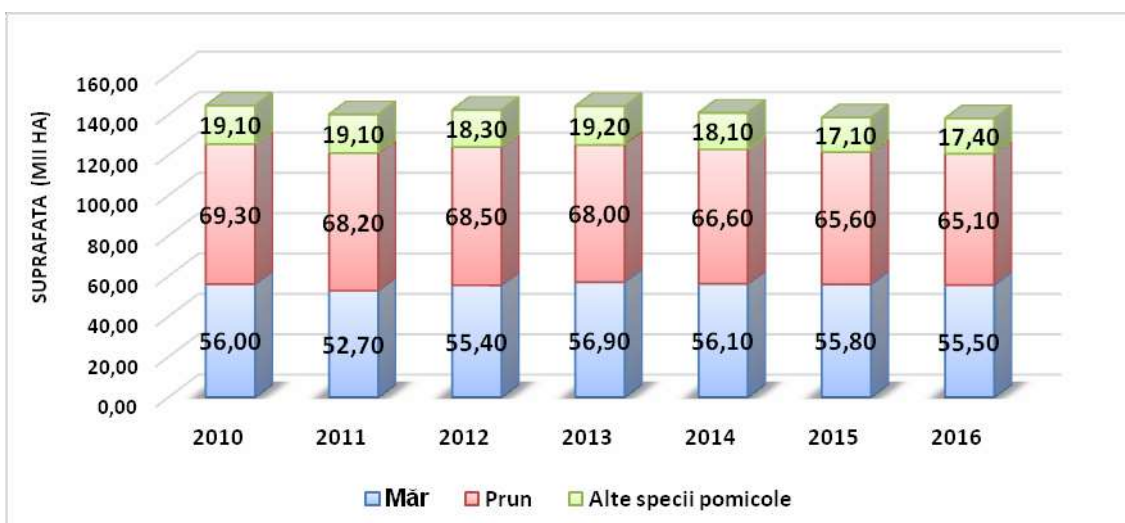
Another factor consisted of the invasion of local markets with agrarian products, mainly fruits that have been produced in other countries that have a more accessible price and a special appearance, so that the farmers have been discouraged and forced to give up a large part of fruit-growing cultivations as they failed to bring profit.

The main fruit-growing species cultivated in Romania are the apple and the plum, which fill significant areas.

During the analyzed period, their surface followed a decreasing trend. So, if in 2010 the two fruit-growing species (apple and plum) represented 58,5% ( 125,3 thousand hectares) of the total cultivated surface with orchards and nursery gardens, in 2016 along with the decrease of the orchard cultivated surfaces, the share of the two species had 56,03% respectively 120,6.thousand ha.

We can see the fact that the area cultivated with plums had a larger share, showing a decreasing trend with a maximum cultivated surface in 2010 of 69,30 thousand hectares, only to decrease at the end of the period to 6,06 % compared to 2010. The cultivated area with apples has reached a minimum in 2011 (52,7 thousand hectares) with 11,95% smaller than 2010 and in 2016 the respective species held a surface that was 0,89 % smaller than the one from the first year of analysis. (diagram nr.2).

Diagram nr.2 The evolution of the surfaces for the main fruit-growing species (thousand hectares)

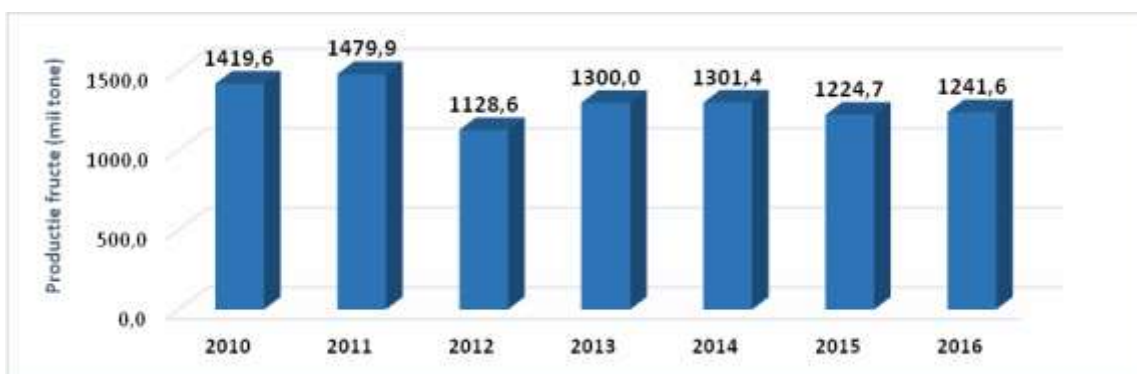


Source: INSSE

The determinant factors that led to a fluctuating production have been the decreasing of the surfaces and the bad weather conditions in the referred year as well as the low potential of the plantations.

The total fruit production (diagram nr.3) according to the data provided by INSSE, has reached a maximum of 1479,9 thousand tons in 2011, being with 4,2% larger than in 2010 only to decrease drastically in 2012 with 23,74% compared to 2011.

Diagram nr. 3 The evolution of the total fruit production (thousand tons)



Source: INSSE

Regarding the main fruit trees species, the 2012's production (table 1) registered decreases in: apricots (-33,3%), pears (-32,1%), sweet cherries-cherries (-23,3%), plums (-18,0%) and apples (-14,8%).

The structure of the fruit production in Romania is poorly diversified, as the assortment range is dominant in apples and plums which hold approximately 80% of total fruit production.

The apple production shows an oscillating trend with a maximum of 620,36 thousand tons in 2011 with 12,2 % more than in 2010 and with a minimum of 462,94 thousand tons in 2012, 16,26 % lower compared to the reference year. The highest rate has been registered in 2011 with 43,8% of total fruit production, followed by the plum production with 34,32 % .

Table nr.1 Fruit production by range (thousand tons)

SPECIFICATION	2010	2011	2012	2013	2014	2015	2016
<b>Total</b>	1419,6	1479,9	1128,6	1300,0	1301,4	1224,7	1241,6
<b>PLUMS</b>	624,9	573,6	424,068	512,46	495,29	496,5	512,98
<b>APPLES</b>	552,86	620,36	462,94	513,6	513,195	476,06	467,26
<b>PEARS</b>	60,38	66,9	54,27	66,85	61,29	45,60	52,75
<b>PEACHES</b>	10,85	21,15	16,84	18,43	23,76	21,33	22,87
<b>NECTARINES</b>	0,39	1,34	0,6	0,7	0,95	0,50	0,78
<b>SWEET CHERRIES AND CHERRIES</b>	70,3	81,8	70,54	80,48	82,81	75,50	73,83
<b>APRICOTS</b>	23,8	33,75	29,09	28,3	43,61	30,99	30,73
<b>NUTS</b>	34,36	35,07	30,55	31,76	31,52	33,40	34,10
<b>STRAWBERRIES</b>	21,43	18,91	15,8	23,2	21,94	21,60	23
<b>OTHER FRUITS</b>	20,37	26,97	23,9	24,21	27,07	23,30	23

Source INSSE ,MADR

Regarding the plum species, in 2010 it has been obtained a maximum of 624,8 thousand tons - 17,9% more than in the last year of analysis.

The production obtained for sweet cherries and cherries in 2016 surpassed by 5,02% the production from the first year of the analysis, and the nectarines one is of approximately 2,6 times larger than the level obtained in 2010, their share being insignificant.

In 2014 the fresh peaches production had the maximum level, being two times higher than the one in 2010 when the minimum level has been registered.

Table nr.2 Evolution of performances in the apple and plum orchards

ORCHARDS	2010	2011	2012	2013	2014	2015	2016
<b>APPLE</b>	98.73	117.72	83.56	90.26	91.48	85.32	84.19
<b>PLUM</b>	90.56	84.10	61.91	75.36	74.37	75.68	78.80

- kg/ha-

Source: own calculations

Table nr.3 The performances variation coefficient

ORCHARDS	2010-2016	2010-2012	2013-2015
<b>APPLE</b>	13.01	17.11	3.67
<b>PLUM</b>	11.53	19.06	0.91

-percent%-

Source: own calculations

For the fruiter species like apple and plum, the performances are unstable registering a diverse range of values.

In the 2010-2016 period the performance variation coefficient shows a high value for apple - 13,01% and for plum 11,53%.

During 2010-2012 we notice the highest degree of variation and during 2013- 2015 there have been registered the smallest values of the variation coefficient. These variations of performance have lead to a changing supply, which is why the disequilibrium degree in procurement will be high.

Setting the fruit prices is influenced by a series of elements such as the reduction of the cultivated areas and the production obtained implicitly and covering the whole production expenses in order to get a big enough profit to extend the production and marketing activity. The price variations are caused by the seasonal character of production which is tied to the permanent market demand.

The price difference is determined by the areal character of the offer correlative to a dispersion of the demand in all of the geographical regions. Other factors that influence the fruit prices are the quality, the prices are higher for superior qualities and smaller for inferior qualities and the cultivated varieties that have a higher market demand.

Table 4. The evolution of the average prices of the main fruits

-lei-

<b>SPECIFICATION</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>APPLES</b>	2.16	2.62	2.68	2.79	2.75	2.67	2.67
<b>PEARS</b>	3.89	4.04	4.19	4.18	4.92	4.53	4.79
<b>PEACHES</b>	4.02	3.58	4.2	4.13	3.73	3.73	3.39
<b>APROCOTS</b>	4.39	4.54	4.42	4.2	4.15	4.81	4.83
<b>SWEET CHERRIES</b>	5.67	5.72	7.47	6.51	7.06	6.26	7.26
<b>CHERRIES</b>	4.86	4.79	6.63	5.55	5.34	4.99	5.38
<b>PLUMS</b>	2.12	2.32	2.59	2.34	2.5	2.37	2.15
<b>NUTS</b>	5.05	7.25	6.28	8.29	8.04	9.2	7.02
<b>STRAWBERRYS</b>	4.64	4.97	6.04	7.41	5.14	5.29	5.13

Source: INSSE

The fruit prices have a growing tendency due to the mincing of the cultivated areas and of the internal production. The apples register a relative constant average price, reaching a maximum 2.79 lei/kg in 2013, 29,16% higher than in the first year of the analyzed period. The smallest average prices can be observed with plums, the prices varying between 2.12 lei/kg and 2,59lei/kg. The average prices of the sweet cherries have increased by 28% in 2016 compared to the reference year 2010.

The average prices of nuts in the analyzed period register an increasing trend reaching 9.2 lei/kg in 2015, almost double compared to the price from 2010, followed by a decrease of 23.69 % in 2016 compared to last year.

While the prices of all the pesticides, fuels, equipments have increased, the fruit prices stayed low, which turned the farmer's investments into significant losses and, as a result, the market has been invaded by imported fruits.

## CONCLUSIONS

The surfaces cultivated with orchards have a mincing tendency for the majority of species because the new seeding rate is lower than the clearing one.

The structure of the orchards in Romania is 64% dominated by classic orchards with a density up to 400 trees per hectare and aged orchards (55% of the surface).

The prices of the inland fruits exercise an orientation and a setting function of the offer and demand through negotiations and beneficiaries. Those are influenced by a large range of factors among the most important being the production costs, the seasonal character of the production, the areal character of the offer and the quality, the level of freshness and, they also depend on the intended market.

The necessary investments in order to attain the objectives set by the fruit producers to increase production can be achieved through the National Rural Development Program 2014-2020, The Fruit-growing Subprogram which invests irredeemable European funds for: increasing the competitiveness of the fruit-growing exploitations by endowing with equipment, setting-up, updating and/or expanding processing units, founding fruit-growing plantations, the reconversion of the existing plantations and the increase of the areas covered by fruit-growing nursery gardens.

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