

FRUIT SECTOR – SELF-SUFFICIENCY OR DEFICIT?

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Abstract: *The Common Agricultural Policy mainly targets reaching the equilibrium between the consumers' and producers' interests. The first and most important Common Agricultural Policy objective is represented by ensuring food security for the population. The paper attempts to identify the modality in which the domestic supply can ensure the population's access to a balanced diet, based on valuable components, and one of the important factors in reaching this objective is ensuring self-sufficiency. Fruit production increase at the level of soil natural potential should be correlated with the absorption potential of domestic market in the first place.*

Key words: *fruit, consumption, supply, self-sufficiency*

INTRODUCTION

From the consumer perspective, the necessity criterion in buying certain products gained in importance, together with the re-orientation towards more economical products. At the same time, the consumption evolution analysis is a necessary stage for reaching self-sufficiency and food security, both on the short and long term. In this context, Romania's natural agricultural potential should be best used through a more favourable political framework.

MATERIALS AND METHODS

The paper identifies and analyzes the sectoral realities from the fruit consumption perspective, competition pressure and from the self-sufficiency perspective. For this purpose, the results of other studies in this field were taken into consideration, the statistical databases and the Food Balance Sheets that provide a global framework in ensuring the information on the population's food and nutritional situation. The information from the Food Balances made it possible to calculate a derived indicator, i.e. the self-sufficiency level. The indicator is obtained by relating the domestic production to the supply availability and reveals to what extent the domestic production covers the domestic consumption needs.

For the qualitative evaluation of human consumption we used the Energy input of nutrients (Aep, Aeg, Ael), representing the calorie content of the average daily consumption of proteins, glucides and lipids. This is calculated as follows:

1. Energy input of proteins: $Aep = Cp * 4,1$ (4.1 calories are released through burning)
2. Energy input of glucides: $Aeg = Cg * 4,1$ (4.1 calories are released through burning)
3. Energy input of lipids: $Ael = Cl * 9,3$ (9.3 calories are released through burning)

The competition pressures exercised by the foreign products are evaluated from the perspective of the share of domestic products in the large retailers' trade.

In order to estimate fruit consumption, the *projection of main indicators* was made, on the basis of the trend from 2002 – 2010. The potential supply was determined from the relation between the evolution of areas and yields.

RESEARCH RESULTS

Domestic consumption of fruit and fruit products

In the period 1991-2002, except for the year 1993, the average consumption per capita of fruit and fruit products in fresh fruit equivalent was about 44-45 kg. An increasing trend followed, with maximum 83.2 kg/capita in the year 2006. In the next period, consumption fluctuated from 62.3 to 70.5 kg/capita. If we analyze the consumption structure by assortments, a person's average consumption is about 24.7 kg apples/year, which represents less than half an apple per day.

If we refer to the maximum consumption in the year 2006, in 2011 one person averagely consumes:

- less by 9.2 kg apples/year
- less by 0.3 kg apricots/year
- less by 0.9 kg cherries and sour cherries/year

Table 1

Yearly average fruit consumption

Item	2000	2006	2007	2008	2009	2010	2011
Apples	16.1	33.9	22.9	16.9	19.3	21.3	24.7
Plums	4.4	4.8	3	4.1	4.1	4.8	4.9
Apricots	1.2	2	1.5	1.5	1.5	1.2	1.7
Cherries – sour cherries	2.9	4.6	4.1	3.1	3	3.3	3.7
Peaches – nectarines	1.2	2.7	2.2	2.1	1.5	1.5	3.8
Grapes	4.9	4.3	5.3	7.3	6.9	5.1	6.2
Meridional and exotic fruit	9.1	24.3	22.1	24.9	18.4	19.8	18.1
Other fruit	4.7	6.6	6.7	6.8	7.6	6.3	7.4
Fruit total	44.5	83.2	67.8	66.7	62.3	63.3	70.5

Source: Tempo – Online database

This evolution is mainly due to the deficient domestic supply that could meet the consumption needs at lower prices, which adds to the population's purchasing power decrease,. However, the increasing trend should be mentioned.

Meridional and exotic fruit consumption has the tendency to replace apple consumption, which can be also explained by their attractive price.

Qualitative evaluation of apparent consumption

From the analysis of the food availability evolution, expressed in calories, it results that the supply or apparent consumption has an increasing tendency, with a peak level in the year 2006, with 3445 calories/capita/day. Compared to the year 2001, in 2011 the apparent consumption/capita increased by over 100 calories.

In the composition of this increase, the calorie intake from proteins had positive values, mainly from animal proteins and, more consistently, the calorie intake from lipids of vegetable and animal origin. The calories from glucides decreased, and this decrease was given by cereals and cereal products and to a lower extent by sugar and sugar products. As a positive aspect, we can notice an increase of the calorie intake from the glucides coming from fruit and vegetables. This is considered a positive aspect, as fruit and vegetables are part of the group of foodstuffs with low glycemic index (< 55) and they generally consist of more complex glucides more difficult to digest and are recommended due to their

multiple beneficial effects: they avoid the high glycemic variations, give a prolonged satiability and delay the hunger sensation ; on the long term, a positive influence upon the «good» cholesterol was noticed leading to a decreasing incidence of cardio-vascular events.

Structurally, in the year 2011, the caloric share of nutrients in apparent consumption falls within the recommended values, i.e. 13.9% calories from proteins, 28.6 calories from lipids and 57.5 calories from glucides.

In the budget of expenditures of a given person, the share of fruit increased from 4.3% in 2002 to 5.7% in 2012. In the structure of expenditures for fruit, apples and pears have a decreasing share from 32.9% in 2002 to 27.0% in 2012. The grapes, apricots and peaches increased in share.

Trade with fruit

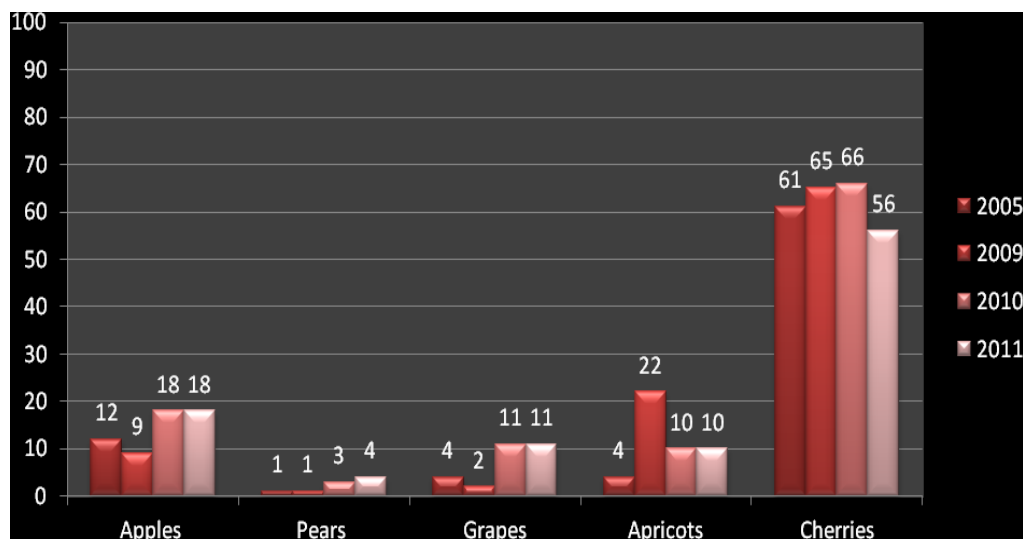
Several types of players are involved in the fresh fruit trade: direct distributors (intermediaries), shops specialized in fruit and vegetables that usually buy from these and the supermarkets, which operate on contract basis either with the producers or with the intermediaries. The retail companies select the products that they are going to resell on quality-price ratio basis and according to the consumers' demand. A most often raised problem is the origin of commodities on the shelves that are going to be sold. Fruit are generally bought from foreign suppliers but there are also commercial companies that try to buy products mainly from Romanian suppliers.

From the large retailers' perspective, this situation is the result of numerous deficiencies in the operation of the primary links in the fruit chain:

- the producers do not comply with the minimum necessary standards for the sale of fruit through the retail networks, as generally they do not have the necessary equipment for the sorting and calibration of products, do not have storage facilities and adequate packages.
- Fruit supply is seasonal, while the supply for the remaining seasons is non-significant, which automatically leads to imports.

Thus, the motivation of the above shares resides in the quality, price and seasonality ratio.

However, in the period 2010/2011, an increase in share of domestic products on the shelves of great retailers could be noticed. This increase can be explained by the gradual adaptation of domestic producers to the technical quality control standards imposed by the European Union or by the increase of Romanian consumers' preference for the domestic products.

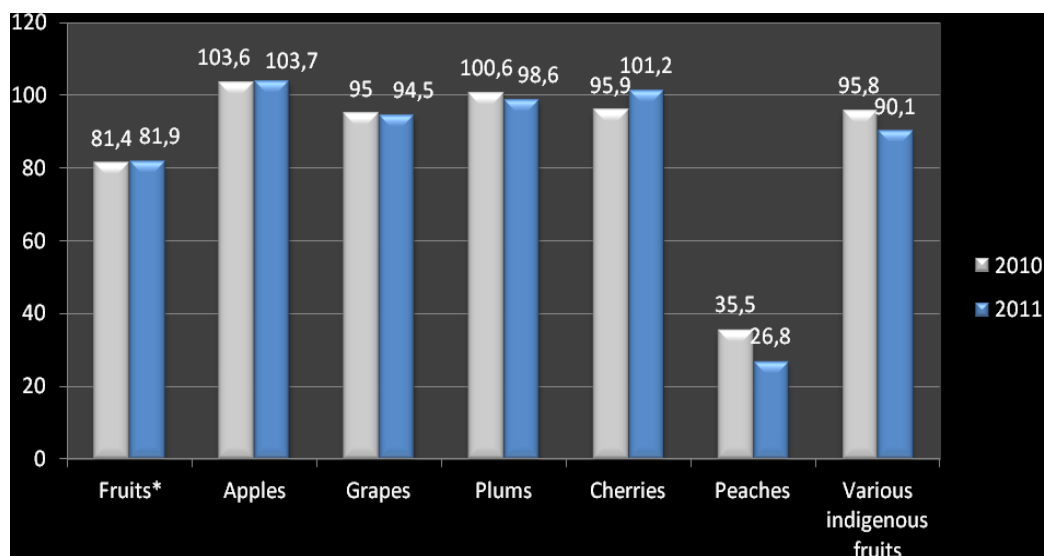
Graph 1. Share of fruit from domestic production in the retail trade, %

Source: Competition Evolution in the Key Sectors, Competition Council, 2012 Report

Self-sufficiency level

Self-sufficiency is an important indicator in food security assessment. This reflects the coverage of the population's consumption needs by the domestic production. When the self-sufficiency level has values close to 100% and it is maintained relatively constant, we can estimate that the domestic supply can ensure the population's food security. As the *self-sufficiency* level is lower and it is accompanied by yearly fluctuations, the supply is volatile and the country's vulnerability increases.

In the case of fruit and fruit products, the imported amounts represented 13% of fruit availability in the year 2002, but under the background of demand and consumption increase, the share of imports in fruit availability increased to 24% in 2011.

Graph 2. Self-sufficiency in fruit and fruit products - %

* Fresh fruit equivalent

Source: processing of data from Food Balance Sheets, NIS

Self-sufficiency in fruit and vegetables (in fresh fruit equivalent) is 81%. Imports contribute to consumption availability, as most Romanian producers do not have storage and conditioning facilities, so as to ensure a constant supply. In the year 2011, the share of fruit imports in the available quantity for consumption was 24%, the products with great deficits being peaches and also other fruit, like pears, for instance.

Projection of main indicators and estimates

The evolution of the sector is analyzed on the basis of the trend from the period 2002 – 2010 for six species.

Table 2

Average annual rate determined for the period 2002 -2010

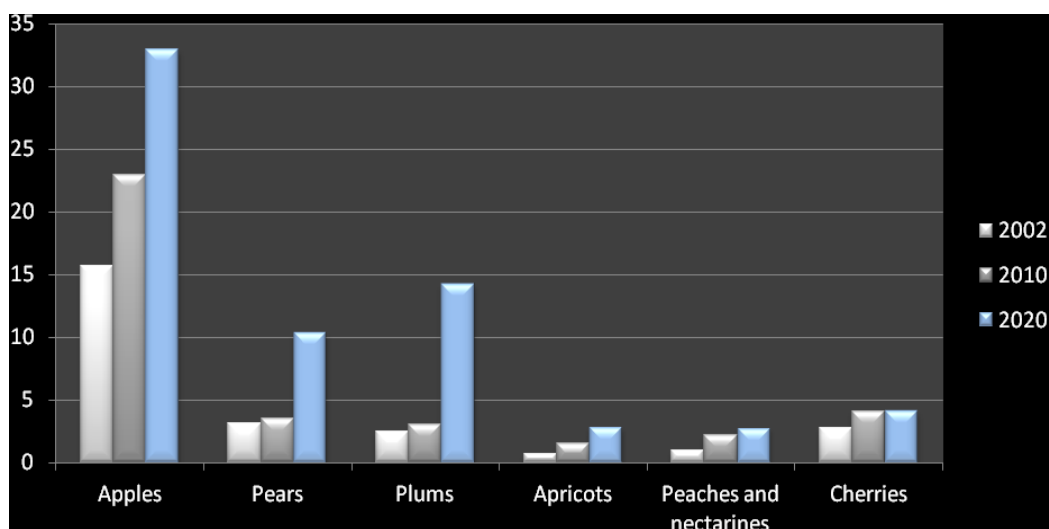
	Areas	Yields	Consumption
Apple	-1.01%	2.79%	4.46%
Pear	-2.07%	0.79%	12.12%
Plum	1.44%	19.24%	11.50%
Apricot	-2.13%	7.15%	8.93%
Peach and nectarine	-6.34%	9.47%	6.25%
Cherry and sour cherry	-2.00%	3.27%	2.23%

Source: own calculations

From the perspective of analyzed indicators, the areas have a decreasing trend, while yields and consumption have a positive trend.

The estimated consumption for the year 2020 features the following distribution (kg/capita/year): 32.947 apples, 10.361 pears, 14.256 plums, 2.822 apricots, 2.750 peaches and 4.115 cherries and sour cherries. The total fruit consumption, expressed in grams/capita/year is estimated at 184.25, slightly over the current EU average (166 g).

Graph 3. Consumption evolution- kg/capita/year



Source: Food Balance Sheets and own calculations

The potential supply was determined from the relation between the evolution of areas and yields. Taking into consideration the increasing trend in consumption, on the basis of projections made, we can draw the conclusion that the only product that can cover

the consumption needs from the domestic production is plums, while in apples the consumption needs can be covered from the domestic production until 2017, inclusively.

Table 3

Difference between the projected supply and the projected consumption, tons

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Apple	86967	75646	63553	50649	36894	22243	6654	-9923	-27534	-46233
Pear	-19498	-29857	-41368	-54172	-68427	-84310	-102020	-121780	-143839	-168478
Plum	641466	786753	963739	1179213	1248192	1248384	1246534	1242376	1235614	1225920
Apricot	-2979	-4259	-5702	-7326	-9149	-11192	-13477	-16029	-18874	-22042
Peach, nectarine	-22543	-24381	-26345	-28442	-30682	-33074	-35628	-38353	-41261	-44364
Cherry, sour cherry	-979	-1733	-2512	-3318	-4151	-5011	-5900	-6818	-7767	-8745

Source: own calculations

The consumption needs for the other products can be covered from imports, or through sectoral support measures.

CONCLUSIONS

Taking into consideration the increasing trend in consumption, it results that, in perspective, the only product that can cover the consumption needs from the domestic production is plums; in apples the consumption needs can be covered from the domestic production until 2017, inclusively. The consumption needs for the other products can be covered from imports, or through sectoral support measures.

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