

## COMPETITIVENESS OF BULGARIAN VEGETABLE PRODUCTION AFTER THE EU ENLARGEMENT

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### *Abstract*

*Vegetable crop production has been a traditional sub-sector of Bulgarian agricultural plant production. Bulgarian production of vegetables has faced serious changes after the accession of Bulgaria to the EU. The main aim of this article is to examine the competitiveness of Bulgarian vegetables crop production under the influence of the CAP. The increase of competitiveness of Bulgarian vegetables should be the main goal of Bulgarian agricultural policy.*

*Key words:* CAP, competitiveness, development, vegetable crop production

### INTRODUCTION

Ever since the accession of Bulgaria to the European Union, Bulgarian vegetable production has been facing a number of challenges: strict application of the rules of the Common European market, harmonization of the quality standards for agricultural production, strong competition from other European countries, access to the European Union's markets. The application of the common rules, in line with the Common Agricultural Policy, reveals new opportunities for stimulating the producers of high-quality agricultural production and increases the competitiveness of Bulgarian fruits and vegetables.

After the reforms in the agricultural sector Bulgaria has lost its leading positions in the production and export of vegetables. The negative trend in the status and development of vegetable production started back in 1990s and now it is characterized by a constant reduction of the area planted with vegetables, as well as by a significant decrease in the number of vegetable producers.

Our country has lost its position of a traditional vegetable producer and exporter. According to Koteva (2010) the main reasons for the negative trends are the lack of targeted agricultural policy in the pre-accession period, lack of support and incentives for development of the sub-sector.[1]

### MATERIALS AND METHODS

To achieve the objective pursued, the statistical yearbooks and reference books of the National Statistical Institute (NSI) have been used as well as the agricultural reports of the Ministry of agriculture and food, newsletters of the Agrostistics Directorate to the Ministry of agriculture and food, and own researches. Below are presented the main factors that influence the status and competitiveness of vegetable production. The dynamics of the harvested areas, the average yields and the production of the main vegetable crops in Bulgaria are reviewed and analyzed.

### RESULTS AND DISCUSSIONS

The analysis of competitiveness as a part of the issues in vegetable production sector is directly connected with its sustainable development. Bulgarian vegetable production lags behind and is unable to satisfy the consumption. According to data provided by the National Statistical Institute, for the period 2002-2012 the consumption of vegetables by Bulgarian households has been growing, the most significant being the increase in the consumption of cabbage – by 29% and mushrooms - 75%. Vegetable crops are a major part of the diet of Bulgarians due to their rich content of vitamins and nutrients.[4]

The fresh vegetables that define the structure of Bulgarian import are tomatoes, peppers, cucumbers, potatoes and onions. A negative trend is observed in all these vegetables: the export is significantly lower than the import. Among the main reasons undoubtedly are the competitive prices of these products as well as the fact that Bulgarian vegetable producers cannot satisfy the needs of the market.[2] The deficiency in the domestic production of vegetables is compensated by the import of vegetables – mainly from Turkey which is the main competitor of Bulgaria. Nearly 73% of the fresh vegetable import – tomatoes, peppers, cucumbers, onions, garlic, etc., is carried out by neighbouring Turkey.

Vegetable production is heavily dependent on the natural and climatic conditions in our country and in some cases the varieties used are not resistant to the changes of the natural conditions (drought, high humidity). The natural factors largely determine the regional specificities in the sub-sector. The variety of climatic and soil conditions contributes to the development of vegetable production, given the fact that most of the crops are grown in the plains and lowlands of Bulgaria.

The status and competitiveness of vegetable production is affected by a number of socio-economic factors such as the demographic resources, agricultural equipment for processing vegetable crops, markets for realization, the policy of our country, the condition of transportation and others.

A typical feature of the outdoor vegetable production is the involvement of a lot of manual work and a relatively limited capacity for mechanization of the production processes. In this connection, the most disadvantaged vegetables are those that ripen at different periods since a lot of labor force is required for their harvesting - such vegetables are the early tomatoes, green peppers, cucumbers, eggplants, etc. This characteristic leads to an increase in the production cost while some vegetables suffer a significant drop in profitability - early tomatoes, green peppers and others. This circumstance imposes these crops to be grown in the most suitable soil and climatic conditions, in order to use the natural factors and it requires

proper zoning and territorial specialization of vegetable crops. It is necessary to introduce new technologies which will allow to increase the level of mechanization of work processes - this will sharply reduce the use of manual labour and will lead to increase of labour productivity and reduction of production cost. Thus, the involvement of manual work will be reduced significantly - mechanized labour will substitute it by means of assimilating new, more perfect, means of production. This can be realized in the following areas:

- Increase of the relative share of vegetables for which there are technological solutions for limited input of manual labour and of vegetables that are mainly used for raw material in the canning industry;

- Implementation of industrial technologies; The implementation of industrial technologies for outdoor production of vegetables requires qualitative changes not only in the varieties used but also in the agricultural equipment, irrigation methods, methods of crop harvesting, mechanization of the different work processes. The requirements for the selection of new vegetable varieties to meet the criteria for the utilization of industrial production methods are as follows:

- A high degree of stability in the average yields;

- Resistance to diseases and pests;

- High quality of production;

- Optimal utilization of the intensive factors in vegetable production – agricultural equipment, irrigation, pest and disease control, mechanized harvesting of production etc.

In this connection, it is essential to determine the correct guidelines for research in the selection of vegetable crops such as expansion of the genetic resources of vegetable species and improvement of the methods of hybridization. This will lead to the creation of new varieties for industrial production with good suitability.

For the period 2007 – 2013, the harvested areas of the studied vegetable crops tend to change - the areas plated with tomatoes, potatoes and green pepper are decreasing while there is an insignificant increase of the areas planted with the rest of the vegetable crops.

Table 1. Size and dynamics of harvested areas (dca) planted with some vegetable crops in all categories of farms in Bulgaria, for the period 2007-2013

Crop	2007	2008	2009	2010	2011	2012	2013
Tomatoes	48,280	34,740	30,070	29,240	38,600	34,010	32,420
Cucumbers	4,960	1,250	3,690	7,490	5,500	5,660	5,920
Pepper	54,970	37,505	50,130	47,035	46,205	30,130	40,350
Onions	12,620	12,813	11,792	16,664	14,988	12,790	12,250
Cabbage	22,460	20,928	15,958	26,157	25,542	20,840	19,030
Potatoes	224,270	217,108	140,016	138,050	162,187	149,060	127,650
Water-melons	33,830	35,071	38,590	33,022	37,935	30,910	30,620
Melons	11,890	12,423	17,343	9,909	15,044	12,670	11,190

Source: Ministry of agriculture and food, Agrostatics Directorate

Table 2. Differences of harvested surfaces cultivated with some vegetable crops, 2007-2013, 2007=100, (%)

Crop	2007	2008	2009	2010	2011	2012	2013
Tomatoes	100	-28.1	-37.8	-39.5	-20.1	-29.6	-32.9
Cucumbers	100	-74.8	-25.7	51	10.0	14.1	19.3
Pepper	100	-31.8	-8.9	-14.5	-16.0	-45.2	-26.6
Onions	100	1.5	-6.6	32	18.7	1.3	-2.9
Cabbage	100	-6.8	-28.9	16	13.7	-7.2	-15.3
Potatoes	100	-3.2	-37.6	-38.5	-27.7	-33.5	-43.1
Water-melons	100	3.6	14	-2.4	12.0	-8.6	-9.5
Melons	100	4.5	45.8	-16.7	26.5	6.6	-5.9

Source: Ministry of agriculture and food, Agrostatics Directorate

The dynamics and level of average yields are a factor that has a major influence on the status, development and competitiveness of Bulgarian vegetables. When analyzing the levels of the average yields, it is notable that

they are too low for the vegetables mentioned above. The specific weather conditions have a direct impact on the average yields, but it can be strongly argued that these yields do not meet the potential of the varieties.

Table 3. The average yields (kg/dca) of the main vegetable crops in all categories of farms in Bulgaria for the period 2007 – 2012

Crop	2007	2008	2009	2010	2011	2012	2013
Tomatoes	1,970.9	2,834.5	2,418.2	2,854.5	1,757.6	2,166.6	2,391.8
Cucumbers	1,148.8	1,528.1	1,433.5	2,520.9	2,073.4	1,000.2	1,809.5
Pepper	1,439.5	1,512.4	1,364.8	1,401.4	1,371.7	1,524.2	1,472.5
Onions	839.6	1,248.5	697.3	1,148.9	1,117.5	809.1	1,044.4
Cabbage	2,205.5	3,095.7	2,463.6	3,012.4	1,746.4	2,267.4	2,375.5
Potatoes	1,331.7	1,625.8	1,653.9	1,819.3	1,432.0	1,015.0	1,569.1
Water-melons	2,273.5	2,271.9	2,302	1,876.3	1,792.6	1,802.0	2,101.2
Melons	1,564.8	1,095.5	1,249.6	889.3	1,007.4	1,393.4	1,307.7

Source: Ministry of agriculture and food, Agrostatics Directorate

Table 4. Differences of average yields of the main vegetable crops, 2007-2013, 2007=100, (%)

Crop	2007	2008	2009	2010	2011	2012	2013
Tomatoes	100	43.8	22.7	44.8	-10.8	9.9	21.3
Cucumbers	100	33	24.8	119.4	80.5	-12.9	57.5
Pepper	100	5.1	-5.2	-2.6	-4.7	5.9	2.3
Onions	100	48.7	-16.9	36.8	33.1	-3.6	24.4
Cabbage	100	40.4	11.7	36.6	-20.8	2.8	7.7
Potatoes	100	22.1	24.2	36.6	7.5	-23.8	17.8
Water-melons	100	-0.1	1.3	-17.5	-21.2	-20.7	-7.6
Melons	100	-30.0	-20.1	-43.2	-35.6	-11.0	-16.4

Source: Ministry of agriculture and food, Agrostatics Directorate

One of the most significant issues and a major factor for the low average yields is the application of old-fashioned, more extensive technologies. Another significant reason is the deteriorated hydro-ameliorative system in Bulgaria which makes vegetable production highly dependable on weather conditions.

Taking into account Bulgaria's good opportunities and traditions in the sphere of vegetable production, the average yields of the main vegetable crops are relatively low, but they somehow manage to keep their cost

at a lower level than the prices at which the production is realized.

The analysis of the total vegetable production for the period 2001 – 2013, as well as the production of the main vegetable crops, illustrates that the total production of vegetables follows the unfavorable trend of permanent decrease in production output. There is a clear lasting trend of decline in production, average yields and the areas planted with the major crops.

Table 3. Production of main vegetable crops for Bulgaria, in total and in crops (in thousand tons)

Year	Total vegetables	Tomatoes	Pepper	Cucumbers	Potatoes	Onions	Cabbage
2001	1,567.4	272.6	141.3	62.5	600.4	36.0	138.5
2002	1,583.5	221.4	164.6	73.5	627.3	38.0	109.4
2003	1,834.5	398.0	208.6	56.1	450.1	42.2	138.0
2004	1,590.0	238.0	125.9	87.0	573.0	45.0	117.0
2005	872.6	126.4	72.1	44.7	375.5	14.3	69.3
2006	1,182.9	212.9	156.7	61.5	386.0	20.2	72.6
2007	803.5	133.2	81.7	57.2	298.7	10.6	50.0
2008	874.3	134.1	59.5	62.6	353.6	16.1	64.9
2009	734.9	104.2	71.5	78.0	231.7	8.22	39.4
2010	356.5	114.6	69.1	65.7	251.2	19.1	78.9
2011	368.0	103.1	66.3	58.6	232.3	16.6	44.6
2012	275.8	94.0	47.1	33.7	151.3	10.3	47.3
2013	260, 2	77.7	59.3	11, 1	197.8	13.4	44.9

Source: Ministry of agriculture and food, Agrostatistics Directorate

For the period 2001-2013 the status of vegetable production was constantly deteriorating thus showing the deep crisis in this traditional sector of Bulgarian agriculture. The production of vegetables is far below the level of the years preceding 2007 when it created a value of about and over BGN 1 billion. The high technological costs and the lack of skilled labour also contribute to the worsening of the indicators characterizing the production of vegetable crops in Bulgaria.

## CONCLUSIONS

The reasons for the low level of competitiveness of the vegetable production observed after the accession of Bulgaria to the EU in 2007 are rooted in the failure of the land reform. As a result of this reform, small-sized farms which are ineffective due to the low degree of specialization, insufficient availability of agricultural equipment and

modest level of production organization, dominate the structure of specialized vegetable outdoor farms.[2]

The strong competition of vegetable production from other European countries after the accession of Bulgaria to the Common European market in 2007 and the imports of fresh vegetables have pressed further Bulgarian vegetable production.

The increase of competitiveness of Bulgarian vegetables should be the main goal of Bulgarian agricultural policy.

## REFERENCES

- [1]Koteva, N., 2010, The vegetable production in Bulgaria – status and problems, “Economy and management of agriculture“, Vol.1, p. 14
- [2]National strategy for sustainable development of agriculture in Bulgaria for the period 2014-2020, Ministry of agriculture and food.
- [3]Nikolov, D., Yovchevska, P., Chopeva, M., Koteva, N., Mladenova, M., Kirovski, P., 2014, Institute of agricultural economics, city of Sofia, Analysis of

sectors and coupled support, p. 15-16;

[4]Terziyska, K., 2011, Competitiveness of Bulgarian vegetables on the international market

