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## PROSPECTS FOR DEVELOPMENT OF SUNFLOWER PRODUCTION IN BULGARIA

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### ABSTRACT

Sunflower is the main oilseed crop for our country, occupying about 85% of the area of industrial crops. The oil made from sunflower seeds has high taste quality and it is used in everyday life, food and pharmaceutical industries. The sunflower cake and meal are additional products from the processing that are valuable concentrated feed for all livestock.

Broad application, favorable soil and climatic conditions, biological features of the crop, technological level of production and established market prices are a prerequisite for achieving a relatively good level of profitability. This determines the importance of the crop for the economic condition of agriculture and country's economy.

The purpose of this study is on the basis on analysis of empirical data to assess the prospects of sunflower production in Bulgaria.

With a view to realize this purpose the paper is organized in three parts. First, the state of sunflower production in Bulgaria is analyzed for the period 1980-2009. Second, the main differences in the systems of economic functioning during the period are derived from the position of their impact on sunflower production and finally the main problems facing producing sunflower farmers are outlined and the potential for future development is estimated.

**Key words:** Planted area, Average yield, Aggregate production, Economic importance.

### INTRODUCTION

The role of the sunflower in Bulgarian agriculture is high. It is row crop and cultivation helps to maintain proper rotation. The sunflower is drought resistant crop and can be grown in large areas. At present in Bulgaria on average 500-600 thousand hectares of sunflower are planted and, therefore, the sunflower is the second most important crop after wheat. Economic significance is reinforced by the fact that international trade in sunflower is one of the most successful. The sunflower is grown mainly for seeds from which is produced the most used vegetable oil in our country.

Sunflower oil has a high nutritional value and good taste. It is composed mainly of unsaturated fatty acids - linoleic (50-65%) and

oleic (25-40%). These acids are found in minor amounts in animal fats and they are not synthesized in the human body. It is known that consumption of unsaturated fatty acids leads to formation of so-called "good" cholesterol, so that vegetable fats are the basis of diet in humans. The average consumption of sunflower oil in Bulgaria exceeds 15 kg per capita.

Sunflower oil is also used for soaps, varnishes and other industrial products in addition to food products (oil, margarine, mayonnaise, canned food, confectionery, etc.).

### MATERIAL AND METHODS

The analysis of sunflower production is based on data covering the period 1980-2009. Indicators which are the subject of analysis include: total area planted, average yields, total production, import and export of agricultural product. To characterize the speed of development during the period are calculated growth rates at fixed base 1980. The information processed in the course of the study is at the national level and it is provided

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by official sources - Ministry of Agriculture and Food (MAF) and National Statistical Institute (NSI).

### STATUS AND PROBLEMS OF SUNFLOWER PRODUCTION TO 1990

To assess the prospects of sunflower production in Bulgaria a review of the traditions and achievements the country has in this production should be made. As noted above, the sunflower is the main industrial crop in Bulgaria and is second in importance after wheat. Its cultivation has become not just a tradition, but even a priority, and the country has many achievements under

selection and seed production activities. With a view to the significant changes in the system of functioning of the country's economy after 1989, analysis of data on production of sunflower is divided into two periods - up to 1990 and beyond. Production of sunflower was stable in the first considered period – from 1980 to 1990 (**table 1**). Average arable area for the period was 308 115 hectares and average yield is estimated at 1 681 kg / ha. Growth rate of production, calculated on the basis of 1980, is average 113.53, which means that production has grown by about 13.5% annually.

**Table 1. MAIN INDICATORS OF SUNFLOWER PRODUCTION TO 1990**

Year:	Planted Area, ha:	Average Yield, kg/ha	Production, tons
1980	247 479,80	1534	379 950
1981	260 202,60	1752	457 197
1982	253 006,80	2010	510 868
1983	261 919,00	1715	454 158
1984	253 215,70	1817	461 592
1985	267 212,90	1363	364 691
1986	452 563,50	1911	488 692
1987	452 678,40	1538	410 288
1988	420 987,50	1568	374 328
1989	239 800,90	1897	454 902
1990	280 202,50	1386	388 361

(Source: Statistical Yearbook, 1985, 1990, NSI)

The reasons for the trends are both economic and technological. On the one hand sunflowers and its products are well accepted in the international and domestic markets and the prices are at satisfactory levels, and secondly some structural reforms have gone in sector during the period, accompanied by improvement in technique and technology, which influences the production levels.

During the period the largest planted area is estimated at 452 678 ha in 1987, and the smallest in 1989 (239 800 ha). There is a gradual increase in cultivated areas by 1985. After this year the growth rate increased significantly until 1988, having returned to their old levels over the past two years. Average yields of sunflower in the country are not very high. Yields were highest in 1982 (2 010 kg / ha) and are lowest in 1990 (1 386 kg / ha). Low yields are due to the fact that no rotation is done properly and the use of fertilizers and pesticides is reduced. The cumulative impact of indicators planted area and average yield predetermine amount of variability of sunflower. The biggest quantity

of total production, amounting to 510 868 tons, is reported in 1982, and the lowest – 364 691 tons in 1985.

### STATUS AND PROBLEMS OF SUNFLOWER PRODUCTION SINCE 1990

Major structural changes occur in Bulgarian agriculture after 1990. Strong production specialization designed to meet the eastern market needs is destroyed. The market's shift to the west countries and carried out agrarian reform put their imprint on the development of the whole agricultural sector, including sunflower production.

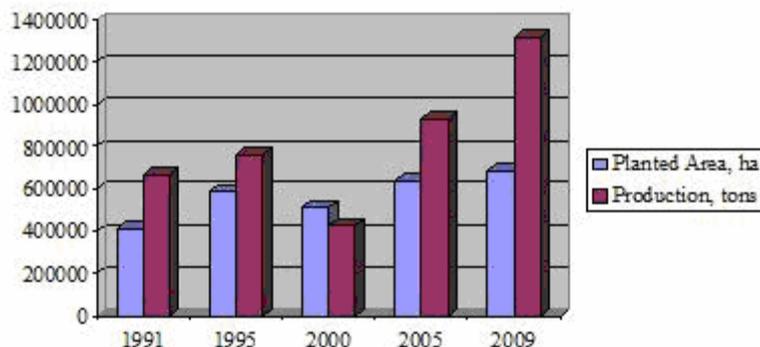
The sunflower production data during the second period (1991-2009 on) show a significant increase in the amount of area planted compared to the previous period. The average cultivated area during the period amounted to 563 980 ha against 308 115 ha in the previous period, or an increase of about 83%. This dramatic increase can be explained by the specifics of the socio-economic environment during the period - collapsed

structures, vague land ownership rights and jumpy markets. All these factors direct farmers to growing of mechanized crops with relatively strong market positions - characteristics which sunflower meets well.

During the period, planted areas keep the increasing tend. The biggest areas occupied by this crop were registered in 2006 - 750 521 hectares and the smallest - in 2001 – 389 741 ha(Fig.1).

Fig. 1

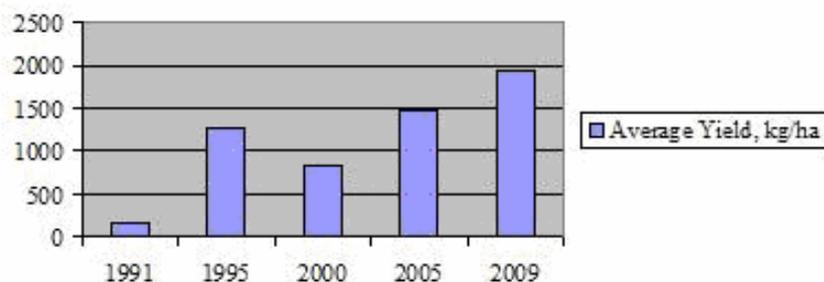
## PLANTED AREA IN HECTARES AND PRODUCTION IN TONS SINCE 1991



Regarding the average yields may be observed significant developments in their levels (Fig. 2). The highest yields were recorded in 2009 – 1 928 kg / ha and lowest in 2000 (832 kg / ha.). It is indicative that the average yield for the period amounted to 1 277 kg / ha, which is

Fig. 2

## AVERAGE YIELD OF SUNFLOWER SINCE 1991



As a logical consequence of the dynamics of areas and yields, production also varies from year to year. The biggest was in 2009 – 1 317 979 tons and the smallest - 405 087 t in 2001. The climatic conditions of the country have large impact on the industry. An example of this is crop year 2002-2003, unfavorable winter for cereals in 2002 forced the part of farmers to re-crop land in spring with sunflower. As a result, production of oil sunflower crop in 2003 increased compared to the previous 2002 with 63%. The combination of climatic factors with the specific socio-economic conditions in the period resulted in a large increase in total

production of sunflower. Growth rate during the period, calculated on the basis on 1980 is about 191.24, and the growth rate of total production in 2009 compared to 1980 amounting to 346.88.

### MEANING AND PERSPECTIVES OF SUNFLOWER PRODUCTION

The sunflower is a crop that has a significant impact on macroeconomic indicators of Bulgaria. It formed about 4% of the gross production value in the agrarian sector and provides over 10% of total exports of agricultural commodities. Typical is the surplus of foreign trade with the sunflower.

This determines the importance of the crop, as at an individual producer level so at sectoral and national levels. The import of oil sunflower in marketing year 2007/08 is 8 915 tons. EU delivered 2 287 tons and the largest quantity is from Greece – 1 116 tons. Larger quantities are imported from Moldova – 2 101 tons and Turkey – 1 843 tons.

It should be noted that the bulk of sunflower seeds exports from Bulgaria is directed to EU countries. According to NSI data (1), 291 620 tons oil sunflower are exported from the beginning of marketing year 2008/09. In recent years, significant quantities of sunflower are annually exported to Romania. For countries outside the EU the largest quantities are exported to Turkey – 237 895 tons. According to data from FAO (2) planted area of sunflower in the world exceeds 10 million hectares and it is a third important oilseed crop after soybeans and rapeseed. The major producers are Russia, Argentina, France, Ukraine, Australia and others. Bulgaria is also among the countries with the highest rating as a producer and selection center in the world. The country has an average yield at a competitive levels compared to the biggest producers in the world. These yields were respectively: China – 1 780 kg / ha, 1 230 kg/ha Russia, Argentina 1 800 kg / ha, France- 2 550 kg/ha, Ukraine – 1 520 kg/ha, Australia – 1 520 kg/ha and Bulgaria – 1 800kg/ha, according to data from 2008 (3). Comparison of results for the average yield data from 80-s years of XX-th century – 1 680 kg / ha, showing that there is deterioration in the results, but this is understandable in view

of changing economic system and the failure to keep certain technological requirements of modern farmers. Overall, however, the country managed to preserve and even increase sunflower production, maintaining country's position as a key actor in international markets.

## CONCLUSION

It can be concluded that sunflower is a promising crop for Bulgaria. The main advantages for the development of culture lies in suitable natural and climatic conditions, traditions of production, and good selection work that our country has. In terms of marketing may be noted that sunflower has a good reception on the international market. The sunflower production's restrictions are rooted in the natural and climatic anomalies which significantly affect the level of productivity, but also in the failure to keep the technology (monoculture, non-observing of the optimal time for the activities and inadequate fertilization) and in susceptibility to volatility in market prices.

It could be argued that there are good prospects for development of sunflower production in Bulgaria, but the final evaluation and recommendations for improving the situation requires further analysis based on factors' modality of production.

## REFERENCES

1. National Statistical Institute, *Statistical Yearbook 1985, 1990, 1995, 2003, 2009*;
2. [www.fao.org](http://www.fao.org);
3. [www.mzh.government.bg](http://www.mzh.government.bg).