

STATUS AND EXPECTATION OF SUNFLOWER COMMERCIAL PRODUCTION IN THE REPUBLIC OF BULGARIA

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ABSTRACT

The size of the area under crops and the general production place of R. Bulgaria as the 12-13 country among sunflower producers worldwide. According to the average yield level classification for the recent years, R. Bulgaria ranges from 6-th to 12-th place and regarding the overall per capita production it has been classified as the fifth country with 44 kg. Argentina takes the first place with 98 kg. followed by Hungary with 68 kg., Moldova with 50 kg and France with 49 kg. of sunflower seeds per capita of the population.

INTRODUCTION

At the present stage R. Bulgaria about 94% of the vegetable oils used for human consumption are being provided for by sunflower. The good combination of aminoacids in its content ranges it in the group of high quality oils. The varieties and hybrids grown in R. Bulgaria involve the linoleic sunflower type. The linoleic acid content in oil exceeds 55%. There are olein type sunflower varieties developed in the IWS "DOBROUDJA". Oils of this type can be used in food and culinary industry where foodstuffs undergo a high heat treatment. The assortment expansion of sunflower oils of different oil-acid contents will be essential regarding their implementation as substitutes to other insufficient vegetable oils imported at the present stage from other countries.

MATERIALS AND METHODS

The comparative assessment has been elaborated on the basis of data provided by statistical FAO year-books and those of R. Bulgaria. The mathematical processing has been carried out by means of the "MICROSTAT" software product and the graphical picture of the general production equation has been elaborated the "MSEXEL" software product.

RESULTS AND DISCUSSION

A long period of time has been analyzed in order to get a real picture of the state and development tendencies of sunflower production in R. Bulgaria [Table 1]. The area under sunflower crops 1961 to 1990 represented by means of its average annualized with the indicated constant recurrence varies insignificantly. From 233,8 thousand hectares involving the 1976-1980 period it reached 259,1 thousand hectares for the 1981-1985 period.

In fact, the overall sunflower production in Bulgaria is being defined by the average yield level. The 1961-1965 period is an exception with average yields of 13,4 kg. per hectare and overall production is the lowest with 337,6 thousand tons. For the rest of the period 1966 to 1990 the average yields vary insignificantly from 16,6 to 17,3 kg/ha. The stable yields guarantee sunflower seed production from 400 to 462 th.tons. This production meets the demands of our country.

Since 1992 the area under crops has expanded significantly leading to an overall production increase in spite of the considerably lower average yields. In fact from 269,7 th.ha. for 1991 the area under crops reaches 495,9 th.ha for 1994 and the overall production for 1992 and 1994 reaches about 600 th.tons. The average yield decrease is due to two reasons:

1. The considerable drought in those years.

2. Technological requirements concerning crop rotation were not implemented leading to decrease development.

In order to evaluate the overall production dependence on the area under crops and the average yield level a mathematical data processing was carried out covering 34 years by means of the "Microstat" software product.

$$y = -288,4 + 1,4 x_1 + 25,5 x_2 \quad F = 242,1$$

$$y = 257,8 + 0,6 x_1 \quad F = 3,6$$

$$y = 293,4 + 8,6 x_2$$

where:

y - overall production

x₁ - area under crops in th.ha

x₂ - average yield in kg/ha

Table 1.
Sunflower production status in R. Bulgaria

• Years	Area under crops th.ha.	Overall production th.tons	Average yield kg/ha .
1961-1965	252.2	337.6	13.4
1966-1970	237.7	462.2	16.9
1971-1975	258.8	439.6	17.0
1976-1980	233.8	391.9	16.8
1981-1986	259.1	449.7	17.3
1986-1990	255.9	424.1	16.6
1991	269.7	434.4	16.1
1992	475.7	594.7	12.9
1993	469.4	432.1	9.20
1994	495.9	601.5	12.1

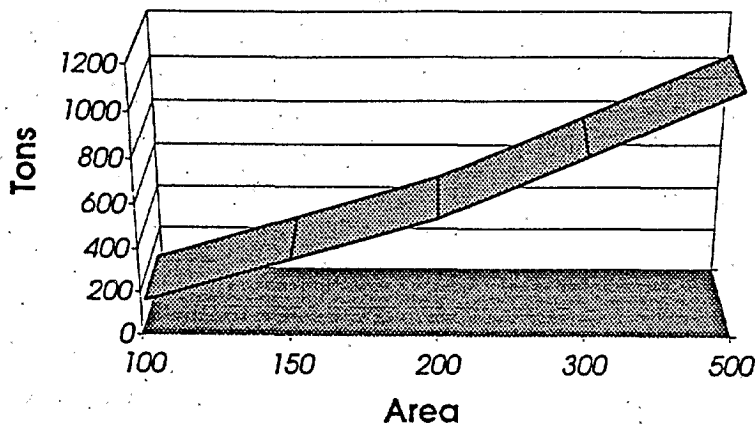


Fig 1. Production depending on area under crops and average yield

There is graphical picture indicating evaluated mathematical dependence /Fig.1/.

CONCLUSION

The overall production increase through expansion of the area under crops leads to an average yield decrease. The only way to achieve overall production increase is the intensification of production in order to reach higher yields. At the present stage it is necessary to limit the area under crops to about 300-350 th.ha. increasing the hybrid share in production.

REFERENCES

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