

Economical Evaluation of Sunflower Basic Seed Production in Republic of Bulgaria

Necho NANKOV and Ventsislav VENKOV
Institute for Wheat and Sunflower "Dobroudja"
near Gen. Toshevo 9520, BULGARIA

Abstract

3000 to 4000 ha basic seed production areas are required to satisfy the commercial production of sunflower in Republic of Bulgaria. The best hybrids Albena and Super Start take 60-70 % of productive sunflower fields and in nearest future hybrids Zora and Santafe will be included in the list of Bulgarian sunflower production. IWS "Dobroudja" get the duties to control and to produce these basic seed.

Introduction

To supply the needs of sunflower oil production, the parental lines of the hybrids Albena, Super Start, Zora and Santafe have to be sown under controled conditions on the following plots:

1. Comparative testing of progenies (CTP) from lines 1234, 1607, 2607, 147 R, 19 R and Rf 673 on 2.2 ha.
2. Prebasic seed of lines 1234, 1607, 2607, 147 R, 19 R and Rf 673 on 3.6 ha.
3. Basic seed of lines 1234, 1607, 2607, 147 R, 19 R and Rf 673 on 50 ha.

Results and Discussion

The seed production and the specificity of this process required precise and accurate evaluation. During the seed production most of the stages are made by hand.

Comparatevely Testing of Progenies (CTP)

Testing of General and Specific Combine Ability (GCA and SCA) of the progenies is made on plot of 2.2 ha for each line. Direct expences for this production are as follow:

1. Price of seed	3438 USD
2. Fertilizers and chemicals	227 USD
3. Sewing of isolating plastic net	6562 USD
4. Hand planting	938 USD
5. Tilling and tinning	1562 USD
6. Isolating and hand pollination	7604 USD
7. Harvesting and cleaning of the seed	2826 USD
8. Laboratory analyses	1858 USD

Total :

25 015
USD

Prebasic Seed Production (PSP)

The seed after CTP are sown under controlled conditions on plots of 3.6 ha (photos 1 and 2). Direct outlays of this production are as follow:

1. Price of seed	5625 USD
2. Plastic isolating net	24 750 USD
3. Fertilizers and chemicals	338 USD
4. Hand planting in greenhouses	1469 USD
5. Tilling and tinning	3125 USD
6. Sewing, covering and removing of mobile plastic nets	4599 USD
7. Hand pollination	4062 USD
8. Harvesting	2500 USD
8. Classifying of seed	938 USD
10. Laboratory analyses	625 USD
11. Packeting of seed	2500 USD
Total :	50 526 USD

Basic Seed Production (BSP)

Developing of the basic seed in Republic of Bulgaria is carried out by two ways. Restorers of fertility (R lines) are grown up under controlled conditions in greenhouses area 9 ha and CMS lines onto isolated plots 50 ha (photos 3 and 4). Production outlays are as follow:

1. Price of seed	17 188 USD
2. Plastic isolating net 9 ha	61 250 USD
3. Fertilizers and chemicals	2406 USD
4. Land rent for production of CMS lines	3906 USD
5. Hand planting in greenhouses	3672 USD
6. Tilling and tinning	4688 USD
7. Sewing, covering and removing of plastic nets	8359 USD
8. Hand pollination	7031 USD
9. Classifying and packeting of seed	7188 USD
10. Laboratory analyses	625 USD
Total :	116 313 USD

Conclusion

Direct outlays for Basic Seed Production (BSP) in Republic of Bulgaria are 191854 USD.

The multiplication of parental lines of sunflower hybrids is a serious, responsible and specific work and an experienced and qualifying specialist is required. This procedure is highly profitable activity especially for conditions in Bulgaria because of the price of only 1 kg from parental lines cost 30 USD.

Acknowledgments

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References

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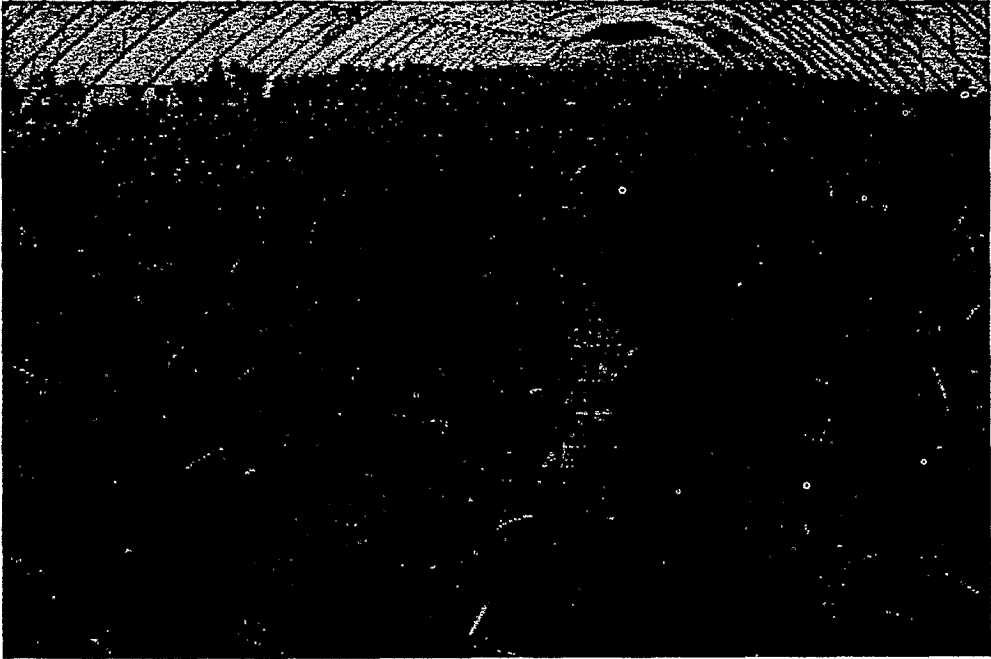


PHOTO 1

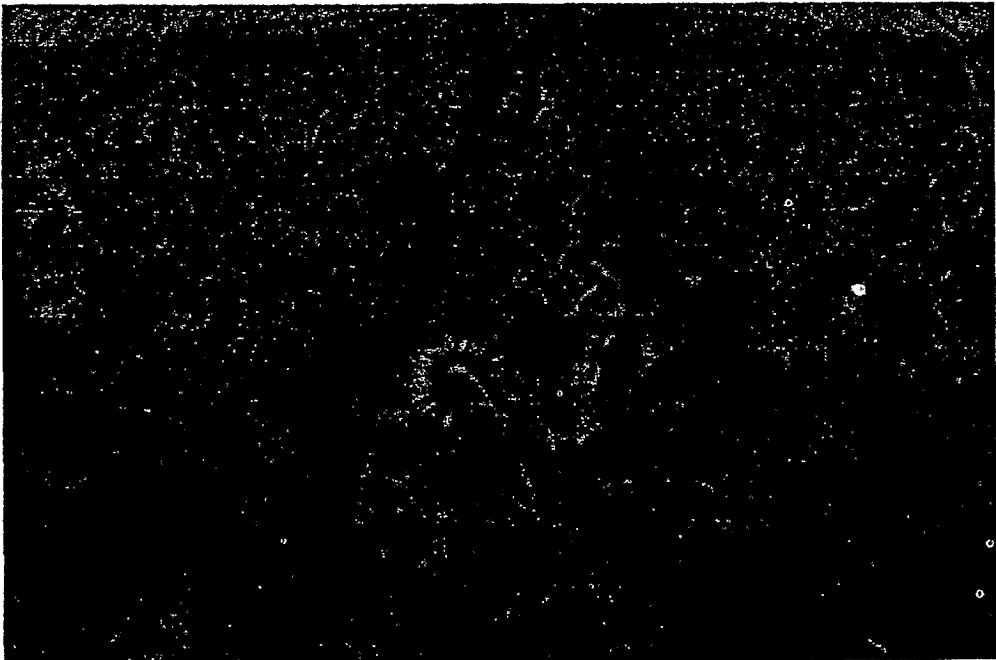


PHOTO 2

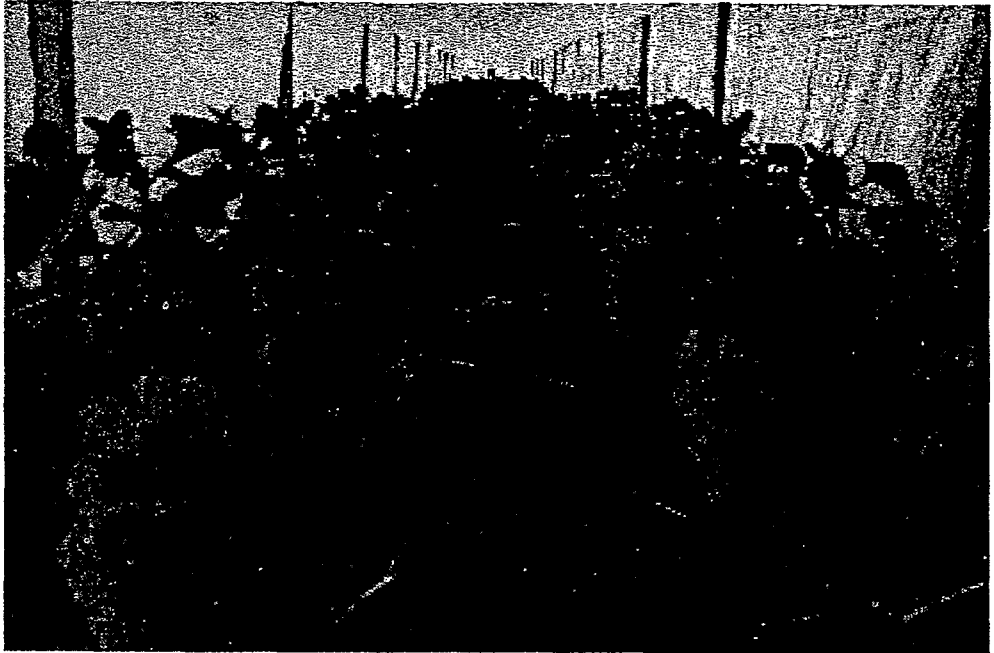


PHOTO 3

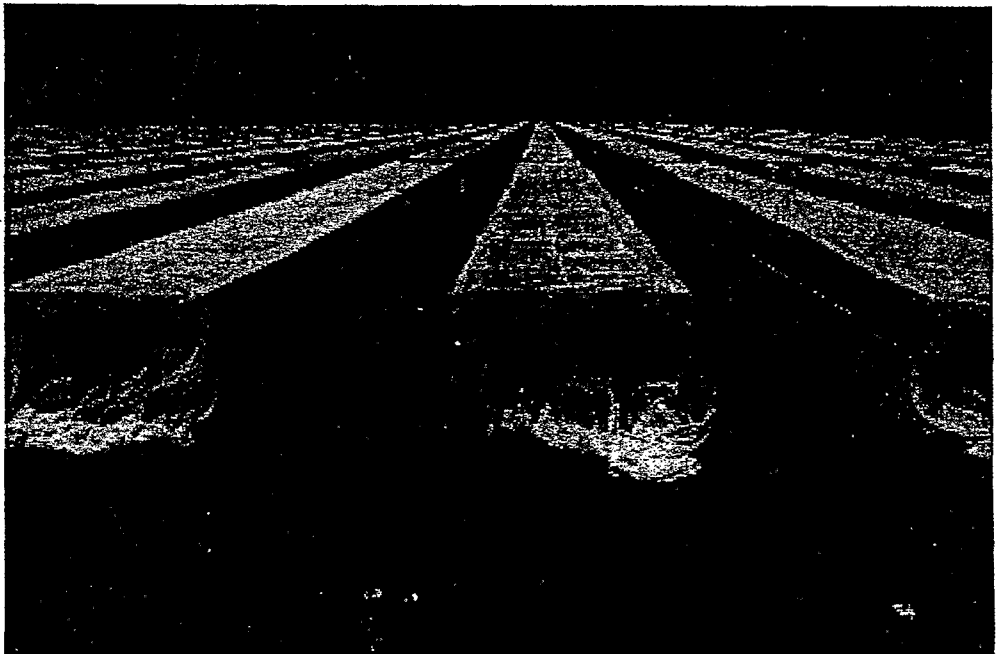


PHOTO 4