

CREATION OF NEW BIOLOGICALLY EARLY SUNFLOWER VARIETIES SUITABLE FOR LOCAL CONDITIONS, WITH HIGH PRODUCTIVITY AND QUALITY INDICATORS

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Annotasiya. *Kungaboqar o'simligining vegetatsiya davrlari turlicha bo'lib, buni ularning o'suv davrida ham ko'rish mumkin. Dala tajribalari Andijon viloyati Izboskan tumani xududidagi Moyli ekinlar seleksiyasi va urug'chiligi Ilmiy tadqiqot fermer xo'jaligi tajriba dalasining tuproqlarida olib borilmoqda va tuproqlari o'tloqi tuproq bo'lib, sizot suvi sathi 3.5-4 m tashkil etadi. Tuproqni mexanik tarkibi o'rtacha qumoq, tuproq ona jinsi ollyuvial-prolyuval yotqiziqlardan tashkil topgan. Dala tajribalari olib borilgan va o'rganilgan va ushbu maqolada jadvallar asosida taqqoslangan.*

Tayanch so'zlar; *yonbarglarining soni, shakli, o'lchamlari, poyaning balandligi, zichligi; savatchaning shakli, o'lchami, gullash davri, donining shakllanishi va pishishi, o'suv davri davomiyligi issiqlikka, unib chiqish dinamikasi, vegetatsiya*

Аннотация. *Вегетационные периоды подсолнечника различаются, и это также можно увидеть в период их роста. Полевые опыты селекция и семеноводство масличных культур на территории Избосканского района Андижанской области научно-исследовательские работы проводятся на почвах сельскохозяйственного опытного поля, а почвы представляют собой луговые почвы с уровнем стока 3,5-4 м. Механический состав почвы умеренно суглинистый, почва материнской породы состоит из олювиально-пролювиальных отложений. Полевые эксперименты проводились и изучались и сравнивались в этой статье на основе таблиц.*

Ключивий слова: *количество боковых лепестков, форма, размер, высота стебля, плотность; форма, размер корзинки, период цветения, формирование и созревание зерна, длительность вегетационного периода зависит от температуры, динамики прорастания, вегетации*

Annotation. *The growing periods of the sunflower plant vary, and this can also be seen during their growing season. Field experiments selection and seeding of oil crops in khududi, Izboskan district, Andijan region scientific research is carried out on the soils of the farm experimental field, and the soils are Meadow soil, the level of sizot water is 3.5-4 m. The mechanical composition of the soil is medium-loamy, the soil mother genus is made up of alluvial-prolyuval deposits. Field experiments have been conducted and studied and compared based on tables in this article.*

Base words; number of petals, shape, dimensions, height of the stem, density; shape of the basket, size, flowering period, grain formation and ripening, duration of growing season to heat, germination dynamics.

INTRODUCTION

Field experiments Selection and seed production of oilseed crops in the area of Izboskan district of Andijan region. The soil of the experimental field of the scientific research farm is meadow soil, and the water table is 3.5-4 m. The mechanical composition of the soil is medium sand, the parent rock consists of alluvial-proluval deposits.

The soils of Andijan region are located at an altitude of 430-460 meters above sea level and are mainly irrigated lands. The average relative humidity of the air is 62-65 percent, and in winter this figure is 75-80 percent.

The climate is changeable, the average temperature in January-February is 4-5°C, the summer of the territory is moderate, the hottest month is July, the average temperature is +28-30°C. Precipitation is low throughout the year, and most of it (70-80%) falls in winter and spring. Field experiments are being carried out in the experimental area of the scientific research farm of selection and sowing of oilseeds in the Yangi-zaman massif, Izboskan district, Andijan region, the soil composition of the experimental area is presented in the table below (Table 1)

Table 1

Analysis of the soil composition of the experimental site

S/n	The depth of the sampled layer is cm	humus %	General %			Active mg/kg		
			azote	fosfor	Kaliy	N-NO ₃	P ₂ O ₅	K ₂ O
1	0-30	1.62	0.135	0.146	1.61	19.5	34.6	210
2	30-50	1.01	0.094	0.120	1.27	15.3	27.8	180
3	50-70	0.81	0.072	0.090	1.01	7.8	15.4	120
4	70-100	0.34	0.031	0.027	1.15	4.2	10.1	80

The total area of the experimental field is 5000 m², where all options are planned to be planted with corn as a protective crop between 100 m² and four returns.

Table 2

Experience system

S.n	Varieties and lines
1	Olimp F1
2	Liniya 1
3	Madina
4	Liniya 2
5	Yangizamon

A randomized method was used to place the options in the experiment, with 4 returns. Planting is carried out by hand in 60 cm x 20 cm x 1 method, planting depth is 4-5 cm. 0.60 cm after each option. protective field, 1 m after each return. the protective field was left. The area of each plot is 100 m x 4.8 m = 480 m².

In the experiment, the local Madina variety regionalized in our republic was used as a model (st).

The following phenological observations were made during the experiment:

-The degree of seed germination was monitored in all variants of the experiment, the formation of the first true leaves, the number, shape, size of the laterals, the height of the stem, the density, the shape and size of the basket, the flowering period, the formation and ripening of the grain, average number of grains in one basket. To assess the quality of the grain, the following laboratory tests were carried out: the shape of the grain, the average weight of 1000 seeds (small up to 50 grams, 51-70 grams average, more than 71 grams high), the amount of oil in the grain (up to 22% low, 22-40% average, more than 40% high) amount of carbohydrate and other nutrients in grain.[2]

As an object of research, the Olimp F1 hybrid of sunflower imported from abroad and the New Age variety included in the State Register of the Republic and the selection reproduction seeds of the Line 1 and Line 2 lines, for comparative analysis, the Madina variety included in the State Register of Agricultural Crops of the Republic of Uzbekistan as a model variety was used.

Description of the new-age variety: Andijan "Asaka oil plant seeds" is a selection variety of the scientific seed farm.

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The average height of the plant is 175 cm. Grain is black. The basket is medium in size. Average weight of 1000 seeds is 52.0 g. The vegetation period is 105 days. Grade resistant to lodging and shedding, 5.0. Average yield: 22.9 s/ha. Fat content is 56.3%. During the test period of the competition, there were no cases of damage by agricultural diseases. Since 2016, it has been included in the State Register for planting as a main and repeated crop on irrigated lands throughout the Republic. Recommended for planting in all regions of our country. In 2021, 5,000 ha were planted across the country.

RESEARCH METHODS

In the studies, phenological observations and laboratory analyzes were carried out using generally accepted methods. All mathematical and statistical analyzes were carried out based on the methods of BA Dospekhov (1985). The amount of oil from the seed was determined using a Soxhlet apparatus. Statistical calculation of productivity data was analyzed by the Peregudov method. The methods of G. G. Gataulina and G. T. Obetkov were used in the research for observations of all the main development stages of sunflower.

RESEARCH RESULTS

Conducting field experiments. A modern technological system is being introduced to the sector in order to consistently implement reforms in the agricultural sector of our country. Adherence to technological standards in the care of new crops planted in our agriculture, introduction of new technologies has become a demand of the times.

In the working program plan, the date of sowing of seeds for this experiment was set as April 1, but unfavorable weather caused a delay in preparing the land for sowing and planting, so sowing of seeds was carried out on April 27-28.

In the field experience, agro-technological work is carried out in the same way as on the farm.

Between the rows is loosened twice, fed twice, watered four times, weeds are not allowed to appear.

In the flowering phase, artificial pollination is carried out on selected typical plants. The following phenological observations and biometric measurements are carried out in the field experiment and in the laboratory.

Determining the field fertility of the seed:

- the plants that appeared in the weeding phase after the germination of the seeds were counted and taken into account (by the method of VNIIMK-All-Russian Scientific Research Institute of Oilseed Crops)

In phenological observations, the following phases of sunflower are observed by the VNIIMK method. initiation (15%) and complete penetration (75%) were determined.

Taking into account the external pollination of sunflower, when organizing experimental nurseries, the flowering phase of the studied varieties and rows should not coincide with the same period, therefore, ensuring that the planting dates of the samples are 15 days apart, 480 m² delyanka fields of varieties and ridges studied in Chatzori are placed in 4 rows.[1]

To provide farmers and farms with cheap and high-quality seed material in order to increase the economic efficiency of sunflower cultivation for the purpose of rational use of areas freed from grain, ensuring food security, and thereby encouraging them, or to increase the income of the industry, to make this industry even more popular, because in any industry where the level is high, that industry will develop rapidly, which means that more raw materials will be produced by itself.

The researched varieties and ridges were placed in a competitive manner, taking into account the flowering periods depending on the vegetation period. During the vegetation period, all varieties were observed and recorded phenologically. The tolerance of all samples to pests and water shortage was evaluated. Samples that showed themselves well during the growth period and in terms of productivity were selected and evaluated in the laboratory.

Selected samples are replanted and new lines are isolated. Varieties with high economic characteristics are sent to the State variety test.



Figure 1. Processes of preparing the field for planting

Table 3

Location scheme of varieties and lines on the experimental site

PROTECTION ZONE									
PROTECTION ZONE МАККАЈО ХОРИ	OLIMP 1 Q 100m/2 (2.4*41.7)	PROTECTION ZONE МАККАЈО ХОРИ	Liniya 1 1 Q 100m/2 (2.4*41.7)	PROTECTION ZONE МАККАЈО ХОРИ	Madima 1 Q 100m/2 (2.4*41.7)	PROTECTION ZONE МАККАЈО ХОРИ	Liniya 2 1 Q 100m/2 (2.4*41.7)	PROTECTION ZONE МАККАЈО ХОРИ	Yangizamon 1 Q 100m/2 (2.4*41.7)
	between row 4.8m/2		between row 4.8m/2		between row 4.8m/2		between row 4.8m/2		between row 4.8m/2
	OLIMP 2 Q 100m/2 (2.4*41.7)		Liniya 1 2 Q 100m/2 (2.4*41.7)		Madima 2 Q 100m/2 (2.4*41.7)		Liniya 2 2 Q 100m/2 (2.4*41.7)		Yangizamon 2 Q 100m/2 (2.4*41.7)
between row 4.8 m/2	OLIMP 3 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Liniya 1 3 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Madima 3 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Liniya 2 3 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Yangizamon 3 Q 100m/2 (2.4*41.7)
between row 4.8 m/2	OLIMP 4 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Liniya 1 4 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Madima 4 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Liniya 2 4 Q 100m/2 (2.4*41.7)	between row 4.8 m/2	Yangizamon 4 Q 100m/2 (2.4*41.7)
PROTECTION ZONE									

Applying seed water in order to collect the planted seeds: to collect the seeds, seed water was given by dividing the rows. In this case, the water standard period is May 1, 550-600 m/3. The period of softening (cultivation) between the rows is May 7-8. In this case, the seedlings were transplanted after the chinbark hosii. In this case, the depth was adjusted taking into account the delicacy of the seedling.

Hand weeding is carried out on May 10-12 to remove weeds near seedlings.

The period of foliar feeding coincided with May 15, and in order to help the seedlings to effectively absorb minerals and nutrients from the soil, Novosil was sprayed with 200 l/ha of water using an Agro600 sprayer.



Figure 2. Using the Agro600 sprayer

Deep softening between the rows (rechlenia) was carried out on May 17, in order to improve the root system development of seedlings and to increase resistance to dehydration. The fight against insects begins on May 20, and since sunflower is a tall plant, it is necessary to carry out the necessary agrotechnical measures during the young age of seedlings. In order to fight against harmful insects, it was treated with water in the amount of 200 l/ha with the help of the Agross600 sprayer.

Fertilization was carried out on May 25, and mineral fertilizer was given for the growth of the plant, in which 170 kg/ha of nitrogen and 50 kg/ha of potassium fertilizer were given from the roots.

Watering was carried out on June 1, and the plant was sprinkled with flour so that the body of the plant could effectively absorb the developed mineral fertilizers.

Watering after flowering is carried out on June 15-27, and the first crop element of the plant is the basket. The beginning of the flowering period of the basket means that its demand for moisture has increased, and during this period the soil moisture should be 55-60%. Due to this, the seedlings in each option site are watered after the flowering exceeds 50%. Watering during the ripening period of the plant was carried out on July 15-18. Watering during the ripening period of the plant was carried out on July 25-27. Harvesting According to the ripening period of each variety and rows, after the sunflower baskets ripen on August 5-25, the baskets are cut by hand, and each variety is harvested and dried separately.

The period for separating grains from the basket is August 8-30. After soaking for 1-2 days, the baskets were removed by hand using a special stick in order not to damage the germination of sunflower seeds.

The drying of separated grain is carried out on August 10, September 3, and it is dried in a special thresher until its moisture content reaches the standard level.



Figure 3

CONCLUSION

Storage of the dried crop from August 13 to September 5. After reaching sufficient humidity indicators, it was placed in cloth bags and placed in a dry and air-circulating place.

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