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PRIMARY SEEDING OF GRAIN CROPS AND OIL CROPS IN LALMIKOR FIELDS AND METHODS OF GROWING THEM

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Annotation. The article describes the results of research on the scientific organization of primary seed production of legumes and oilseeds in accordance with the soil and climatic conditions of arable lands, biological characteristics, phenological and biometric indicators of these varieties, optimal planting dates, standards, feeding regimes.

Key words. Lalmikor areas, legumes, oilseeds, sowing rate and duration, phenological stages, biometric indicators, yield, agrotechnology, soil-climatic conditions, seed, selection, variety, feeding, I-II years, selection.

注解。 本文介绍了根据耕地土壤和气候条件、这些品种的生物特征、物候和生物特征指标、最佳种植日期、标准、饲养方式，科学组织豆科植物和油籽初级种子生产的研究结果．

关键词。 Lalmikor **地区、豆**类、油籽、播种率和持续时间、物候阶段、生物特征指标、产量、农业技术、土壤气候条件、种子、选择、品种、喂养、I-II **年**、选择。

Introduction. In our country, special attention is paid to the development of agriculture, the widespread introduction of scientific approaches and advanced modern technologies in this area, ensuring food security, increasing the production of legumes and oilseeds, their export.

Based on these tasks, it is important to create varieties of legumes and oilseeds in accordance with different environmental conditions, to establish a science-based seed system, to develop agro-technologies for the cultivation of varieties on a scientific basis to meet the demand of the population for legumes and oilseeds. It is also important to obtain high-quality products from newly developed varieties by developing optimal planting times, standards, feeding regimes.

In maintaining and increasing soil fertility in arable lands, the cultivation of legumes in the system of crop rotation in combination with cereals allows the population to increase ecologically pure, high-protein and nutritious products.

For dry lands, it is necessary to create new varieties of legumes in accordance with the world market standards, export-oriented, resistant to heat, drought, disease, large grains, branched branches, tall, mechanized, non-shedding, protein-rich.

Legumes include peas, green peas, soybeans, mosh, beans, lentils, peas, sorghum, vigna, lupine, vika. They all belong to the legume family, are protein-rich, easy to digest, high-quality, inexpensive cereals compared to cereals,

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and have the ability to increase soil fertility by assimilating nitrogen from the air using native bacteria.

At present, the importance of oilseeds such as maxsar, flax sesame and undov is growing in the arable lands of the republic, but as a result of repeated sowing of seeds of these crops every year, their variety is deteriorating and productivity is significantly reduced.

The formation of the seed system of oilseeds is one of the urgent tasks today, so in order to maintain the varietal characteristics of these areas, it is important to select farms that grow high-quality superelite and elite seeds and provide regional varieties with high quality, varietal seeds.

This, in turn, will lead to the expansion of the area of local varieties of oilseeds, which are resistant to adverse environmental conditions in terms of yield and quality, and increase crop yields in these areas.

The degree to which the problem has been studied.

According to academician G.V Gulyaev, proper seed production will increase yields by at least 20%. The faster the varieties update process is done, the more effective the result will be. Many crops are not genetically decomposed, many varieties can be stored for hundreds of years without any genetic changes, noted Vavilov N.I.

Seed production is a special branch of agricultural production, which is engaged in increasing crop yields and introducing new varieties into production, as well as increasing the quality of productive seeds of these varieties. During the seeding of varieties, mechanical contamination of the seed requires renewal of the seeds to prevent their natural change as a result of external factors.

According to D.T. According to R.A. Urazaliev, an academician who has studied seed production in developed countries, as a result of varietal changes and the introduction of seed production in recent years, agricultural production has increased by more than 40%.

One of the important factors in increasing productivity is the creation of drought-resistant, heat-resistant varieties of local climatic conditions and the establishment of their primary seeding.

SA Chazov, GM Popova, A.Yu. Simonov and others have noted in their scientific research that in different regions of Russia it is possible to increase the yield of cereals and other crops through the proper organization of seed production.

V.A. Moshkin noted that 18-25 0C is considered positive in the production of quality oil in oilseeds, and an increase of 30-36 0S leads to an increase in the amount of toxic acids in the fat content of grain.

According to I.G Zhdanov, the application of nitrogen fertilizers in oilseeds leads to higher yields and lower oil content. Phosphorus and potassium fertilizers give an increase in the amount of fat in the grain by increasing the dry matter. The amount of oil in the seeds of oilseeds depends on the type of plant and the conditions of its cultivation, the amount of oil in the seeds of oilseeds grown in the southern regions is higher than in the regions grown in the northern regions.

According to research conducted by A.Yu.Aripov, the quality of oil and the amount of iodine in oilseeds depends on the natural climatic conditions and the amount of precipitation and air temperature. It is noted that the amount of precipitation is high and the air

temperature is moderate, the oil quality is good and the oil output is high.

Grodzinskiy A.M., Dolgov B.S., Semenova Z.M., Karpunin F.M. and Rudenko A.I. The following phenological stages of oilseed flax occur - germination, the appearance of a true third pair of leaves, lower branching, the beginning of the spruce phase, the middle and end period, budding, flowering, green ripening, early yellowing, yellowing and full ripening.

Object and method of research. Field experiments were conducted in the conditions of lalmikor soils on the central experimental farm of Lalmikor Agricultural Research Institute. This experimental farm is located at an altitude of 485 m above sea level in the semi-arid (320-350 mm) plain-hilly region of rain-fed lands, the soil of which consists of typical lalmikor gray soils. The experimental field soils are moderately sandy, moderately susceptible to water and air erosion, with 0.55-0.88% humus, 0.08-0.12% gross nitrogen, 0.12-0, in their driving layer (0-20 cm). It contains 15% total phosphorus and 1.20-1.160% gross potassium. Groundwater is located below 10 m (data KY Yusupov, AS Muratkasimov, AA Umurzakov).

Field experiments were performed on the basis of the following methods: Methodology Gosudarstvennogo sortoispytaniya Maslichnyx kultur. Issue 1, 1985 Moscow. Methods of conducting experiments on distinctiveness, uniformity and stability of len maslichnyy, len-dolgunets Linum usitatussimum L. 1997 g. Moscow. Determination of oil content in seeds in the laboratory of OOO "Oil Analysis Service" GOST-13496-85. Definition of maslichnosti. conducted using standards.

Conducting field experiments on the basis of guidelines adopted by the State Commission for Variety Testing of Agricultural Crops (1985, 1989) and guidelines developed by the Lalmikor Agricultural Research Institute (2004) (1980), dispersive mathematical analysis of experimental data was performed by the method of B.A. Dospekhov (1985).

The results obtained. For the 2021 harvest, seeds from 1000 selected plants of pea “Iftixor” variety were selected for the 1st generation test seedlings, and seeds from 500 selected plants of pea “Iftixor” variety were selected for the 2nd generation test seedlings and placed in separate bags. I-II generation test nurseries and I-II year breeding areas were prepared for sowing seeds by fertilizing, plowing, milling and harrowing.

500 generations per 1 m2 area, 2 generations per year were planted on SKS-7 selection seeders at the rate of 280,000 seeds per 10 m2 area.

Of the 1,000 lines studied, 350 were decommissioned, 650 were assembled by hand, and each line was connected as a separate bond, ground in a special crushing equipment, and cleaned by hand. During the analysis of the plants in each line, the grains were evaluated, cleaned by hand, and placed in separate bags according to the order number (Table 1).

The number of plants per 1 m2, the resistance of plants to adverse environmental conditions, diseases were assessed, and the characteristics of the original variety were selected.

The germination of seeds in our experimental fields is this year

At 10–12 days, field fertility was 92–95%.

Diseases caused by fungi (ascochitosis, fusariosis) were not observed in this agricultural year due to the fact that the rainfall during the growing season was much lower than the average perennial.

In the I-II generation test plots and I-II breeding areas, typical plants of this variety were identified, evaluated, selected on the basis of

morphological features, and other varieties and weeds were removed by hand. Phenological observations, unfavorable external environmental conditions, disease resistance were determined and unfit plants were uprooted.
Biometric measurements were carried out in the I-II generation nurseries on morphological features in the families of the variety, the crop was collected in separate bags and bags. Variety-selected families were collected by hand and placed in separate bags. In this agricultural year, the rainfall was much lower than the average perennial and the high air temperature had a negative impact on yields.
In the I-II years, phenological observations, adverse external environmental conditions, disease resistance and removal of unusable plants were carried out by assessing and selecting selected families of typical plants, manual cleaning of other varieties and weeds.
In the first year breeding nursery of “Iftixor” variety, plant height, total and productive branching, number of main pods and
The weight of 1000 grains did not differ from each other. All seeds harvested from the 1-2-year-old breeding area were cleaned by hand and brought to conditioning requirements, and 162 kg of seeds were prepared from the 2-year-old breeding seeds.
In the first year of the initial breeding of Iftixor variety, 1,000 generations were planted in the nursery. From these generations, 650 families with typical morphological and economic characteristics of the variety were selected and transferred to the second year nursery.

Selected lines on the characteristics of biological and economic characteristics in the first and second generation nurseries of pea variety "Iftixor" (Gallaorol, 2020-2021).

Table 1

№	Sort	Number of lines planted, pcs	Planted area, m^2	Number of lines resistant to biotic and abiotic factors, pcs				Growth period, (only)
				Number of disease-resistant lines, pcs	Number of pest-resistant lines, pcs	The yield was the same, Number of lines, pcs	Made invalid Number of lines, pcs	
I - year generation test kennel								
1	Iftixor	1000	1	700	811	579	350	109
II - generation test kennel								
1	Iftixor	650	10	627	581	639	150	114

Also, 650 families were selected from the best 500 families (varietal, non-diseased) with the same morphological and economic characteristics selected from the second-

generation test seedlings, and observations were made.

The selected varieties of “Iftixor” entered the flower phase at the same time and entered the legume phase at the same time. According to biometric analysis of 500 systems, the branching of these generations ranged from 4.6 to 5.0 depending on soil conditions, the onset of flowering (10%) in the main systems began on April 23, plant heights ranged from 52.0 cm to 55.0 cm.

The first year of propagation was carried out before flowering between the plants planted in the field. Seedlings of alien (braked) generations were cleared from the field by hand separately before entering full bloom. As a result of the research, the best seedlings of pea variety “Iftixor” were left for 2 years. Biometric results showed that plants with typical morphological biological characteristics selected were mostly of average height

59-61 cm branching averaged 4-4.6.

During the growing season, weeds were removed, early-maturing, fertile, disease-resistant ridges were selected, and monitoring and evaluation were carried out. The plants were then harvested when fully ripe. Peas were planted on a 1-year-old test site with typical morphological and biological characteristics of the Iftixor variety, and plant seeds with the best typical characteristics were harvested separately. Variety seeds selected from the 2nd generation test field were planted in the 1st year propagation area of the seeds and 162 kg of yellow seeds were obtained. 2460 kg of yellow seeds grown in the 2nd year breeding area will be distributed to seed farms on a contract basis.

The area set aside for peas should be free of perennial weeds. In late autumn the soil is plowed to a depth of 20–22 cm using plows. In early spring the plow is plowed twice horizontally or diagonally. Storming serves to retain moisture in the ground and level the ground.

Before planting or in conjunction with planting is given 30–40 kg of pure phosphorus fertilizers. Feeding with 30-40 kg of pure nitrogen fertilizers per hectare in low-fertility areas with low humus content of humus (humus) allows to increase the height of plants and sharply reduce losses during harvesting.

Pea seeds are cleaned of various mixtures before sowing, large and flat are selected. Sown seeds must be of high reproduction (generation) and fully meet the requirements of Class 1 and II. Seed germination is required to be 95 and 92%, purity not less than 99.0 and 98.5%. In some cases, it is also possible to sow Class III seeds with 90% germination and 97% purity, which are mainly planted in fields not used for seed.

Excessive rainfall in recent years has led to a sharp decline in grain yield as a result of damage to the pea during the growing season with root rot, fusarium wilt and ascochitosis. To prevent this, Vitavaks 200 FF drug for one ton of seeds 7–10 days before sowing 2.5 l, Hercules 6% s.e.sus. 0.5 l, Vial-TrasT 12.9% s.sus.k. It is recommended to use 0.3 l, Raxil 0.7 kg, Darmon-4 3.0 kg, Baraka 0.4 kg.

It is recommended to use the biological drug "Psevdorizobin" 10 kg per 1 ton of seeds, which activates the formation of nodules on the roots of peas in the dry months of spring on dry lands. In this case, the seeds are treated with this drug in the morning and evening in a cool mixture of 10 liters of water, and immediate sowing is required without drying the seeds.

Peas are planted at the same time as the early spring cereals. The best time for sowing is when the temperature in the seed layer of the soil

reaches +6 +7 0S. In the southern regions of the country, peas are planted in the last ten days of February and the first ten days of March. In lalmikor areas it is advisable to sow in the first and second decade of March in the plain-hilly region. In lalmikor areas located in the foothills and mountainous areas, the best time to sow is in the third of March and the first and second ten days of April.

Sowing of pea varieties is carried out on seed drills with row spacing of 45 or 60 cm. In this case, the sowing norm is Flavor per hectare and 55-60 kg in Uzbekistan-32 varieties, 65-70 kg in Yulduz, Jahongir and Iroda-96 varieties. Depending on the mechanical composition of the soil in dry lands, the planting depth is set at 4-5 cm.

During the growth and development stages of the pea, it is important to carry out timely agro-technical measures to clear the weeds. To do this, in areas where the grass has not sprouted, the soil is treated with zigzag sharp-toothed harrows to remove annual weeds. This action allows the grass to germinate evenly and retain moisture, losing soil compaction.

Row spacing is treated using a cultivator or manual force to remove perennial weeds that appear in April and May. Pea ascochitosis can cause severe damage during periods when the weather is favorable for the development of air temperature in the coming years. Under these conditions, the destruction of plants is prevented by more cultivation between the rows of peas and the use of folicul, Bayleton, Bumper, Duplet TT at the rate of 1.0 l per hectare, Titul at the rate of 0.5 l per hectare.

In the competitive variety trials over the years of research, the varieties of safflower Zhizzakh-1 distinguished themselves by the number of seeds in the basket, as well as the number of seeds in the box of the oil flax variety “Bakhorikor” (Table 2.).

Table 2.

The main indicators of varieties of oilseeds in rainfed conditions. (Gallaaral 2021).

n/n	**Variety name**	**Plant height, see**	**The number of branches on one plant, pcs.**	**The number of baskets (boxes) on one plant, pcs.**	**The number of seeds in one basket (box), pcs.**	**Weight of 1000 seeds, g**
Saffiower						
1	**Milyutinsky - 114, (st)**	75,6	6	14	30	32,3
2	Gallaaral	70,1	5	12	33	35,0
3	Jizzakh – 1	73,3	7	16	36	34,6
4	Moydor	77,5	8	18	38	33,6
Oil flax						
1	**Bahmal – 2, (st)**	49,4	10	22	7	4,2
2	Bahorikor	52,4	12	26	8	4,6

3	Lalmikor	56,4	14	28	8	4,4

The table shows that the number of seeds in a basket of safflower varies from 33 pieces, variety "Galyaaral" to 38 pieces, variety "Moydor" at the standard 30 pieces. "Milyutinsky-114", the number of seeds in the box was 8 pieces for the new variety of oil flax "Lalmikor" and the standard was 7 pieces "Bakhmal-2", and the same new varieties of safflower and oil flax were distinguished in terms of yield. In the conditions of 2021, such an indicator as the height of oilseed flax plants was 56.4 cm, for safflower it was up to 77.5 cm.

From a review of the literature, it follows that, despite a number of advantages of oilseeds, in the agrotechnical sense, this crop has not been sufficiently studied.

This can be explained by the fact that the studies carried out, depending on the weather, climatic and agrotechnical conditions, which, according to (tables No. 3), the results of the yields of oilseeds over the years are distinguished by different degrees.

Table 3

Productivity of the main varieties of safflower and oil flax in rainfed conditions (Gallaaral 2017-2021)

№	Variety name	Yield c / ha					
		2017 year	**2018 year**	**2019 year**	**2020 year**	**2021 year**	**Average**
	Saffiower						
1	**Milyutinsky - 114, (st)**	6,8	5,6	7,8	7,5	5,4	6,6
2	Gallaaral	5,2	6,4	6,9	5,8	4,8	5,8
3	Jizzakh – 1	7,6	6,9	8,2	7,9	6,4	7,4
4	Moydor	-	7,8	9,3	8,3	6,0	7,8
Oil flax							
1	**Bahmal – 2,(st)**	6,4	6,5	6,8	7,0	5,1	6,3
2	Bahorikor	7,5	7,1	7,4	6,8	6,2	7,0
3	Lalmikor	-	7,9	8,0	8,3	6,8	7,7

In the competitive safflower variety trials for five years of research, the average yield for safflower was distinguished by the variety "Moydor" (7.8 centners / ha) and "Zhizzakh-1", as well as the variety "Lalmikor" for oil flax (7.7 centners / ha) and variety "Bakhorikor" (7.0 centner / ha), the standard of safflower variety "Milyutin-114" was 6.6 centner / ha and the variety of oil flax Bakhmal -2 to 6.3 centner / ha.

Also P.M. Zhukovsky (1971) pointed out that up to 60% of vegetable oils can be accumulated in safflower seeds, and up to 37% in fruits. According to the data provided by the Ministry of Agriculture of Uzbekistan, in our country the

share of edible oil imports reaches 40-45%. An increase in the production of its own vegetable oil only due to an increase in the area of cultivation of basic oilseeds in rainfed conditions.

The oil content of safflower seeds in 2017-2021 in our experience averaged from 25.14 to 27.56%, for oil flax from 35.58 to 37.85%, which is 2.0-2.5% higher than the standard varieties (Table 4).

Table 4.

Oil content of the main varieties of safflower and oilseed flax in rainfed conditions (Gallaaral 2017-2021)

№	Variety name	Oil yield in seeds,%					
		2017 year	**2018 year**	**2019 year**	**2020 year**	**2021 year**	**Average**
	Saffiower						
1	**Milyutinsky - 114, (st)**	26,25	25,60	27,47	27,10	23,12	25,90
2	Gallaaral	25,74	24,90	28,12	24,70	22,52	25,14
3	Jizzakh – 1	27,75	26,62	29,74	26,77	23,91	26,95
4	Moydor	-	26,75	30,46	28,64	24,42	27,56
Oil flax							
1	**Bahmal – 2,(st)**	38,70	34,64	35,45	35,50	33,62	35,58
2	Bahorikor	37,02	36,27	37,56	37,32	34.83	36,60
3	Lalmikor	-	38,25	39,35	38,56	35,25	37,85

Flax fields are plowed to a depth of 22-25cm, deep plowing in autumn increases yields by 20% compared to plowing in spring. Because flax seeds are fine and the root system develops slowly, the soil will need to be well tilled. In order to retain moisture in the soil and remove weeds, it is baroned as soon as it is plowed.

When oily flax is planted in loamy, dense, rocky, saline and heavy soils, the yield decreases. Light-gray and dark-gray soils in dry lands, grassy gray soils in mountainous areas are suitable for growing oily flax, flax fields should be free of weeds.

Flax sowing period can be carried out in the second and third decade of March in the rain-fed semi-arid plains and in the mountainous areas with precipitation in the second and third decade of March, and in mountainous areas in the third decade of March and the first decade of April.

The sowing rate is 16-18 kg / ha in the plains, 20-22 kg / ha in the foothills and 22-24 kg / ha in the mountains. Seeds are sown to a depth of 4–6 cm. The seeds are sown at a depth of 4-5 cm with a width of 30-45 cm in a row or in a ribbon on a simple grain drill. At present, it is recommended to sow Bakhmal-2 and Bakhorikor varieties of oilseed flax for planting in arable lands.

When the humidity and optimum temperature are sufficient, flax seeds germinate after 6-12 days. When it hardens without sprouting, the seeds are pressed by a storm to break up the soil. Flax grows poorly in the first 20–25 days. Flax crop is demanding to mineral fertilizers Phosphorus fertilizers accelerate the development of flax and improve its quality. Potassium fertilizers increase the number of branches in the stem, increase the yield and the amount of oil, and if nitrogen fertilizers are given on time and in the required amount, the flax plant will grow well and the amount of oil will increase. If the amount of nitrogen in the soil increases, it will have the opposite effect on the plant. Weeds need to be eradicated before the flax blossoms without growing fast and absorbing moisture and nutrients from the soil quickly. When the flax seeds are ripe, the buds turn yellow, the leaves wither, the stems do not change, the leaves fall off and the seeds turn brown. The buds do not open. The rotational speed of the combine drums during harvesting should be around 800-1200.

Conclusion. Primary sowing of legumes of “Iftixor” variety of peas was carried out step by step in a complete system. specific seeds were obtained. 2460 kg of yellow seeds were prepared in the 2nd breeding nursery.

As a result of the gradual implementation of the primary sowing of the "Iftixor" variety in a complete system, the fulfillment of sowing norms and terms in optimal terms, it was observed that the yield grown was 20-25% higher.

According to the results of a five-year study of safflower and oil flax varieties, the safflower “Moydor” and oil flax “Lalmikor” varieties are of the greatest breeding value, which in terms of yield and oil content, depending on weather conditions, exceeded the standard varieties in rainfed conditions.

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