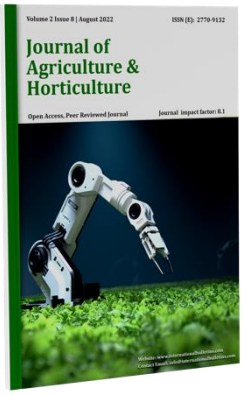

SELECTION OF HIGH-YIELDING OIL FLAX SAMPLES SUITABLE FOR THE CONDITIONS OF MOUNTAINOUS REGIONS OF DRY FARMING

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Abstract:

This study is devoted to the selection of oil flax (Linum usitatissimum) varieties and their productivity in the mountainous regions of Rainfed. The region's unconventional climate, soil conditions, and crop management practices are taken into account. The main aspects to be studied during the research are the results of the scientific research conducted on the samples of the oilseed crop.

The results of the research are expected to be of great importance in the development of agriculture in the mountainous regions of Rainfed and in the improvement of the technologies of planting oilseed crops. This will not only strengthen the regional economy, but also improve the living standards of the local population.

Key words: flax, collection, weight 1000 seeds, harvest.

INTRODUCTION

Flax is one of the most important oil crops in world agriculture, and it is considered a crop used for food industry, animal husbandry and other industrial purposes. "According to the information of the international organization FAO, the production of linseed in the world in 2018 was 3.2 million tons, of which 29 percent was Kazakhstan, 22 percent was Canada, 17 percent was Russia, 11 percent was China and other countries. belongs to the states" [3]. The increase in the number of people on earth, the decrease in water resources year by year, and the increase in the volume of food production cannot satisfy the rapidly growing demand.

In this regard, in 2020, the Ministry of Agriculture developed a special catalog of information on the classification and economic efficiency of non-traditional agricultural crops grown in different areas and regions of the republic . It contains about 40 types of non-natives. traditional agricultural crops, including vegetable crops such as artichoke, okra, sweet potato, brussels sprouts, medicinal melissa, cereal crops - barley, sorghum, sorghum, sorghum, oats, vetch, and blueberry from legumes k mustard, cultivated lentils, sown corn, amaranth from fodder crops, leaf (sparsett), bersim-corn sorghum, perko, polba, flax from oil crops, sesame, makhsar, rapeseed, sorghum, bozuban from medicinal plants, valerian, mustard botany, geography of distribution, biology of growth and development, agrotechnology of care and production of crops, features of organization of agrotechnological processes, optimal periods of transfer, crop production types of costs and efficiency indicators are presented.

DISCUSSION

Increasing the yield of oilseed in the coming decades is important in today's agriculture, the improvement of agricultural production systems and the introduction of new technologies, high yield and productivity indicators compared to other oilseed crops, plasticity and creation of flax varieties with high oil yield is one of the urgent tasks of today [1].

Nowadays, in order to solve the important issue of satisfying the needs of the population of our Republic for high-quality food products, in particular, vegetable oil, it is necessary to increase the cultivation of oil crops such as sorghum, flax, sunflower, which are suitable for different soil and climate conditions, and are fruitful., creating varieties resistant to diseases and pests is one of the urgent problems.

According to N. B. Brach, the leading researcher of FGBNU VIR named after N. I. Vavilov (St. Petersburg, Russia), depending on the purpose of using the oil, there are different requirements for the content of the oil. There are one set of requirements for oil used for food, another for varnish and paint industry oil, and other requirements for oil produced for biodiesel. Undoubtedly, flax cultivation should go the way of creating special varieties for a specific purpose [4].

In this regard, the areas of oil crops grown in our country such as sorghum, flax, and sunflower are being expanded, and the creation of fertile, disease- and pest-resistant varieties suitable for different soil and climate conditions is considered as one of the priority tasks.

That is why our government is developing programs with great attention to ensuring the needs of the population for vegetable oil in our republic. Taking into account the above tasks, our scientists are achieving high results in creating promising varieties suitable for the soil and climate conditions of our republic.

The purpose and results of scientific research.

Rainfed agricultural scientific research institute sent to the Bakhmal scientific experimental station from the scientific-research institute of plant genetic resources (VIR) for the study of oil flax samples belonging to different countries in terms of origin in the mountain and sub-mountain regions of Rainfed farming and valuable selection of samples with characteristic properties is considered.

Scientific research was carried out in 2023-2024 in the experimental areas of the Bakhmal scientific experimental station in the mountain and sub-mountain regions. Placement of field experiments and phenological observations, biometric measurement of plant height, number of stems, diameter of pods, number of grains per 1 pod, weight of 1000 grains, yield from 1 m2 by V.M. Lukomes [2010] conducted on the basis of developed methods. Mathematical analysis of the results of the experiment was conducted according to the method developed by B.A. Dospekhov (1985) and based on methodological manuals developed and adopted by the Rainfed Agricultural Scientific Research Institute (2004).

In 2023-2024, the precocity, branching, the number of baskets per branch, the number of grains per basket, the weight of 1000 grains, and the productivity of 48 samples of flax were studied in comparison with the "Bahorikor" variety in 2023-2024.

Nc-9793(86 days), Lalmikor and Nc-31032(88 days), Nc-9792(89 days), Nc-9794(90 days) samples of our collection were found to be 7-11 days earlier compared to the standard variety.

According to the results of the conducted research, valuable signs and characteristics of the oil flax crop, i.e., multi-branching, the number of baskets on the branch and the number of grains in one basket, compared to the standard "Bahorikor" variety, were found.

Bakhmale signs and characteristics of oiled linen samples in the collection area (Bakhmal -2024 year)

№	The name of the variety and lines	Growing period, day	In one plant				Productivity, s/ha	Weight of 1000 seeds, g
			Height, cm	Number of horns, pcs	Number of bags, pcs	The number of grains in a bag, pcs		
1	Bahorikor (st).	97	42,3	4,5	16,1	8,2	5,4	4,4
2	Lalmikor	88	44,5	4,8	16,1	8,7	6,1	4,9
3	Nc-9786	95	45,1	5,1	17,7	8,6	5,9	4,5
4	Nc-9787	94	42,9	4,7	18,3	7,9	5,7	5,2
5	Nc-9788	93	42,7	4,5	17,4	9,2	6,2	4,7
6	Nc-9789	100	44,6	4,6	18,2	7,8	6,6	4,2
7	Nc-9790	95	40,2	4,3	16,9	9,1	6,9	4,9
8	Nc-9791	92	41,1	4,9	17,5	8,4	5,9	5,1
9	Nc-9792	89	44,9	5,2	18,4	7,5	6,1	4,7
10	Nc-9793	86	39,7	4,6	15,3	8,6	5,6	4,9
11	Nc-9794	90	43,5	5,2	19,2	6,9	4.9	5,0
12	Nc-31020	97	45,0	4,3	17,1	7,5	5,8	4,6
13	Nc-31026	92	39,7	4,8	18,6	7,6	6,4	4,8
14	Nc-31029	98	42,8	4,6	19,1	7,8	6,0	4,9
15	Nc-31032	88	40,2	4,9	18,4	8,2	5,6	4,8

As can be seen from the table data, based on the results of the research in the collection area, samples of varieties Lalmikor, Nc-9788, Nc-9789, Nc-9790, Nc-9791, Nc-9792, Nc-31026 and Nc-31029 are classified as "Bahorikor" variety (5.4 s/ha) compared to 0.7-1.5 s/ha, and in terms of weight of 1000 pieces it was found that samples numbered Nc-9787, Nc-9791 and Nc-9794 were 0.7-0.8 g higher and o 25 of the studied variety samples were selected for re-study in further studies, 12 variety samples were considered invalid.

Summary. Based on the results of the experiment, it can be concluded that oilseeds should have high productivity, and at the same time, oil quality indicators should also meet the requirements of the State standard. As a result of the conducted experiments, it was found that the selected samples weighed 1000 pieces, and the yield was higher than the standard variety. Samples with such indicators can be used as a starting source in future research.

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