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DETERMINATION THE EFFECT OF SOWING DATES AND NORMS ON THE YIELD OF NEW VARIETIES OF OILY FLAX

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ABSTRACT
In this article, The effect of sowing seeds in the norms 4, 5, 6 mln of grain/ha on the growth and development of new varieties of oilseed flax has been studied. It has been proven that the growing period lasted 2-3 days faster in the option where 4 million seeds were used according to the seed sowing norms, compared to the option where the sowing rate was increased to 6 million seeds per hectare. It has been proven that the Russian Fliz variety, which gave good results on the same level as the Bahorikor(st) variety, is well adapted to the climatic conditions of Uzbekistan and prevailed over other varieties.

Keywords: flax, norm, seed, bud, flower, oilseed crops, growth, ripening, fir making, phase.

Introduction

Linseed (Linum usitatissimum L.) is a widely used valuable industrial crop with a yield potential of 2.5 tons/year [1].

Among the world's flax crops, oil flax dominates, occupying about 84% of the total area, and only 16% is made up of long-staple flax varieties, which are grown mainly for fiber production. [2].

In the world, interest in food products containing oil flax plant is increasing. Processed oil flax seeds are rich in fatty acids and omega-3. In addition, it contains easily digestible proteins rich in amino acids and unsaturated fatty acids, which are important for the human body. Flaxseed oil can significantly reduce the risk of oncological diseases and cardiovascular diseases. Lignan compounds in flaxseed can slow down cell division in tumors [5].

This crop is characterized by excellent biological and economic qualities, namely: drought resistance, short growing season, productivity, high yield and profitability [3,4].

In order to obtain a high yield from any agricultural crops, it is necessary to create optimal conditions for the development of plant growth.[6,7]

The selection of varieties and the development of agrotechnical methods of cultivation that ensure the realization of the biological potential of the variety are of particular importance in the technologies of cultivation of flax varieties [8, 9, 10].

It is known that one of the important technological methods of growing field crops is the planting period. Depending on the sowing period, the growth and development of the flax plant is influenced by biological factors such as moisture, heat, and light [11, 12].

Optimal planting level is also one of the main factors that significantly affects the productivity of this crop.

The sowing period of flax seeds depends on many factors: the purpose of cultivation, biological morphological characteristics and the method of sowing. The smaller the habitus of the plant, the smaller its area [13, 14].

MATERIALS AND METHODS

Scientific research was conducted in the fields of Tashkent State Agrarian University. The soil of the experimental field is a typical sierozem soil that has been irrigated since ancient times. The color of this soil is grayish-gray soil, and it has undergone weak erosion. The soil layer is grayish-yellow, with a grayish-reddish, brown color as it moves to the lower layers. This soil is compacted according to its agrophysical properties, the thickness of the arable layer is 0-15 cm, and the thickness of the sub-soil layer is 15-27 cm.

The number of repetitions is 3, the number of options is 12, the planted area is 0.15 ha, the number of plants is 20. The field experiment was carried out on the standard Bahorikor and Russian varieties of Fliz, Danik, Beryuza, RFN. 4, 5 and 6 million seeds were used per hectare.

RESULTS AND DISCUSSION

Optimum sowing norm, which regulates the amount of nutrients and moisture entering the plant, is one of the main factors in the formation of crop yield.

The grassing phase of oilseed was slightly extended due to consecutive rainy days of the weather. In the first and third options, 4 million and 6 million pieces per hectare of Bahorikor (st) variety where one seed was used, the full grassing phase lasted 17 days. And in the second option, 5 million per hectare, in which one seed was spent, it lasted for 18 days and was delayed by one day.

Russian varieties also adapted to the soil and weather conditions of Uzbekistan and gave good results. In the second option, in which 5 million seeds of the Fliz variety were used per hectare, it entered the weeding phase in 17 days, in the first and second options, 4 and 5 million per hectare in which a single seed is used, full grass is observed in 18 days, it was found to be delayed by one day.

Table 1 The duration of growth period of Oil flax varieties, days

Varieties	Sowing norm mln/pcs	Grassing	Making fir	budding	Flowering	the seed ripening			Growth period, day
						blue	yellow	Full	
Bahorikor	4	17	44	55	63	82	88	103	109
	5	18	45	57	64	85	90	104	109
	6	17	44	57	65	84	89	104	110

Fliz	4	18	44	56	64	82	89	104	110
	5	17	45	55	63	84	88	103	109
	6	19	46	57	65	83	90	104	110
Danik	4	19	45	57	65	83	90	104	110
	5	18	4 5	57	64	83	91	103	109
	6	19	46	56	65	84	91	105	111
Beryuza	4	18	46	57	65	84	91	106	112
	5	19	46	57	64	85	92	105	111
	6	20	47	56	65	86	92	106	112
RFN	4	19	47	57	66	86	92	103	109
	5	18	46	57	65	85	93	105	111
	6	19	47	58	66	86	92	106	112

It was found that the seeds of the Russian variety Fliz have the same germination duration as the Baharikor (st) variety, while other Russian varieties are delayed by one day. It was found that the Russian Beryuza variety had the longest grassing phase.

According to the norms of seed sowing, the formation of lawns was observed faster in the option where 5 million seeds per hectare were used.

4 million and 6 million pieces per hectare of Bahorikor (st) variety in the first and third options, where a single seed was used, the full fir making phase was observed in 44 days. In the second option 5 million per hectare, in which a single seed was used, it lasted for 45 days and was delayed by one day.

It was found that the fir making phase of the Russian variety Fliz is the same as that of the Baharikor (st) variety, lasting 44 days, while the other Russian varieties are delayed by one day. It was found that the duration of the fir making phase lasted the longest in the Beryuza and RFN varieties of Russia, 47 days.

According to the norms of seed sowing, in the option of spending 4 million seeds per hectare, the duration of the branching phase is observed faster, 6 million. it was found that the duration of the branching phase lasted longer in the case of using one seed.

In the first option, where 5 million seeds were used per hectare of the Bahorikor (st) variety, the full seeding phase was observed in 55 days. In the second and third options, where 5 and 6 million seeds per hectare were used, it was 57 days, and a delay of one or two days was observed.

It was found that the Russian Fliz variety has the same duration as the Baharikor (st) variety, which lasts 55 days, while the other Russian varieties are delayed by one day. It was found that in the RFN variety of Russia, the budding phase lasted the longest, 58 days.

According to the seed sowing norms, the duration of the budding phase was observed faster in the option that used 4 and 5 million seeds per hectare, and it was found that the duration of the budding phase lasted longer in the option that used 6 million seeds.

In the first version of the Bahorikor (st) variety, where 4 million seeds were used per hectare, the full flowering phase lasted 63 days. In the second and third options, where 5 and 6

million seeds were used per hectare, there was a delay of one or two days, lasting 64 and 65 days.

It was found that the flowering phase of the Russian variety Fliz is the same as that of the Baharikor (st) variety, lasting 63 days, while the other Russian varieties are delayed by one day. In the RFN variety of Russia, it was found that the flowering phase lasted the longest, 66 days.

It was found that the duration of the flowering phase was observed faster in the option that used 4 and 5 million seeds per hectare according to the seed sowing norms, and the duration of the flowering phase was longer in the option that used 6 million seeds.

The full ripening phase of the seed of oilseed in the first version of the Bahorikor (st) variety, where 4 million seeds were used per hectare, the duration of the full ripening phase lasted 103 days. In the second and third options, where 5 and 6 million seeds were used per hectare, it lasted for 104 days and was delayed by one or two days.

It was found that the full ripening phase of the Russian Fliz variety is the same as that of the Bahorikor (st) variety, lasting 103 days, while other Russian varieties are delayed by one day. It was found that the duration of the full ripening phase lasted 106 days in the Russian Beryuza and RFN varieties.

According to the seed sowing standards, the duration of the full ripening phase was observed faster in the option that used 4 million seeds per hectare, and it was found that the duration of the full ripening phase lasted longer in the option that used 5 million seeds.

Table 2 The duration of growth period of Oil flax varieties, dates

Varieties	Sowing norms, mln/pcs	Grassing	Making fir	Budding	Flowering	the seed ripening			Growth period , date
						blue	yellow	full	
Bahorikor	4	24.03	14.04	25.04	07.05	17.05	23.05	06.06	12.06
	5	25.03	15.04	28.04	08.05	20.05	25.05	07.06	1 2 .06
	6	24.03	14.04	28.04	09.05	19.05	24.05	07.06	1 3 .06
Fliz	4	25.03	14.04	26.08	08.05	17.05	24.05	07.06	13.06
	5	24.03	15.04	25.04	07.05	19.05	23.05	06.06	12.06
	6	26.03	16.04	27.04	09.05	18.05	25.05	07.06	1 2.06
Danik	4	26.03	15.04	27.04	09.05	18.05	25.05	07.06	13.06
	5	25.03	1 5 .04	27.04	08.05	18.05	26.05	06.06	12.06
	6	26.03	16.04	26.04	09.05	19.05	26.05	08.06	14.06
Beryuza	4	25.03	16.04	27.04	09.05	19.05	26.05	09.06	15.06
	5	26.03	16.04	27.04	08.05	20.05	27.05	08.06	14.06
	6	27.03	17.04	26.04	09.05	21.05	27.05	09.06 _	1 5 .06
RFN	4	26.03	17.04	27.04	10.05	21.05	27.05	06.06	12.06
	5	25.03	16.04	2 7 .04	09.05	20.05	28.05	08.06	14.06
	6	26.03	17.04	2 8 .04	10.05	21.05	27.05	09.06	15.06

In the first and second variants of Bahorikor (st) type of oilseed, 4 and 5 million seeds were used per hectare, the duration of the growing season lasted 109 days. In the third option, where 6 million seeds were used per hectare, it lasted for 110 days and was delayed by one day.

It was found that the duration of the growth period of the Russian Fliz variety is the same as that of the Bahorikor (st) variety, 109 days, while other Russian varieties are delayed by a day or two. It was found that the length of the growing season lasted 112 days in the Russian Beryuza and RFN varieties.

It was found that the duration of the full ripening phase was observed faster in the option that used 4 and 5 million seeds per hectare according to the seed sowing norms, and it was found that the duration of the growing season lasted longer in the option that used 6 million seeds.

According to dates, the harvest of varieties ripened from June 12 to June 15. During this period, it is possible to harvest the crops and plant repeated fast-growing crops in the conditions of Uzbekistan.

CONCLUSION

It was found that the growth and development of oilseed varieties increased by 1-3 days when planting at the rate of 4 million seeds per hectare compared to when the planting rate was increased to 5 and 6 million seeds. Among oilseed varieties, Bahorikor (st) variety, relatively early ripening Beryuza variety, has been proven to ripen 2-3 days later.

REFERENCES

1.Pven, V.T. Zashita lna maslichnogo ot vrednыx organizmov v usloviyax Kubani / V.T.Pven, N.M.Tishkov, S.A.Semerenko// Maslichnogo kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno- issledovatelskogo instituta maslichnыx kultur.-2013.-№1(153-154).-S.135-140.

2.Sostayanie proizvodstva i sovershenstvovanie elementov texnologii vozdelыvaniya lna maslichnogo v yujnom regione Rossiskoy Federasы / A.S.Bushnev, F.I.Gorbachenko, Ye.V.Kartamisheva, T.N.Luchkina, , S.A.Semerenko, Yu.V.Mamirko , S.P.Podlesnыy// Maslichnogo kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno-issledovatelskogo instituta maslichnыx kultur.-2013.-№2(155-156).-S.63-84.

3.Maxova, T.V.Urojaynost lna maslichnogo v zavisimosti ot sposobov seva inorm vыseva / T.V.Maxova // Aktualnыe voprosы biologii, seleksii, texnologii vozdelыvaniya i pererabotki maslichnыx kultur, posvyaщennoy 100-letiyu so dnya osnovaniya VNIIMK. Materialы VII mejdunarodnoy konferensii molodnыx ucheныx i spesalistov. – Krasnodar, 2013.-S.150-155.

4.Zelensov, S.V.Poluchenie dvux pokoleniy lna maslichnogo v techenie odnogo polevogo sezona kak rezerv dlya uskoreniya seleksinnogo protsessa (Soobщenie I) / S.V.Zelensov, L.R.Ryabenko, Ye.V.Moshnenko // Maslichnыe kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno- issledovatelskogo instituta maslichnыx kultur.-2014.-№1(157-158).-S.73-80.

5.Alaa Al-Din A.Bekhit, Amin Shavandi, Teguh Jodjajt. Jon Brich, Suesiang Txe, Isam A.Muhammad Ahmad, Fahad Va Al-Juxaimi, Pouya Caeedi, Adnan A.Bekhit. Flaxseed: Composition detoxification, utilization, and opportunities // Biocatalysis and Agricultural Biotechnology/--2018.-Vol.13.-P.129-152.

6. Bidnina, I.A. Produktivnost lna maslichnogo i zavisimosti ot fona mineralnogo pitaniya v usloviyax yuga Ukrainы / I.A.Bidnina // Aktualnыe voprosы biologii, seleksii, texnologii vozdelivaniya i pererabotki maslichnыx kultur, posvyaщennoy 100-letiyu so dnya osnovaniya VNIIMK. Materialы VII mejdunarodnoy konferensii molodnыx uchenыx i spesalistov. – Krasnodar,2013.-S.24-27.

7. Sovershenstvovanie yelementov texnologii vozdelыvaniya lna maslichnogo v usloviyax yujnogo regiona Rossiskoy Federatsii /A.S.Bushnev, F.I.Gorbachenko, Ye.V.Kartamisheva, T.N.Luchkina, S.A.Semerenko, Yu.V.Mamirko, S.P.Podlesnыy// Maslichnogo kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno-issledovatelskogo instituta maslichnыx kultur.-2015.-№2(162).-S.50-62.

8.Kupsevich, N.A. Rol sorta v poluchenii stabilnыx i ustoychivыx urojaev lna v usloviyax sentralnoy zonы Kurganskoy oblasti /Kupsevich, I.N.Porsev, Yo.Yu.Toropova //Agrarnыy vestnik Urala. -2015.-№7(137).-S.12-15.

9.Ponajev, V.P. Proizvodstvo lna – na uroven sovremennыx trebovaniy /V.P. Ponajev // Zaщita i karantin rasteniy.-2013.-№2.-S.6-9.

10.Abuova, A.B. Urojaynost maslichnыx i zernovыx kultur v sevooborotax Kostanayskoy oblasti /A.B.Abuova // Vestnik Altayskogo gosudarstvennogo agrarnogo universiteta.-2012.-№5(91).-S.5-8.

11.Reaksiya lna maslichnogo sorta Vniimk 620na sroki poseva v Srednem Predurale /I.Sh.Fatixov, V.N.Goreeva, K.V.Koshkina, Ye.V.Korepanova //Maslichnogo kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno- issledovatelskogo instituta maslichnыx kultur.-2014-№1(157-158).-S.87-91.

12.Kolotoy A.P.Urojay lna maslichnogo v usloviyax Srednogo Urala / A.P.Kolotoy, O.V.Sinyanova // Maslichnogo kulturы. Nauchno-texnicheskiy byulleten Vserossiyskogo nauchno- issledovatelskogo instituta maslichnыx kultur.-2015.-№2(162).-S.59-62.

13.Dorojko, G.R.Vliyanie normы viseva semyan lna maslichnogo na konkurentnuyu sposobnost v borbe s sornoy rastitelnostyu / G.R.Dorojko, V.M.Penchukov, A.A.Sentyabrev // Zaщita i karantin rasteniy.-2014.-№1.-S.24-25.

14.Vinogradov, D.V. Vliyanie norm viseva i udobniy na produktivnost lna maslichnogo / D.V.Vinogradov, A.A.Kunsevich // Vestnik Krasnayarskogo gosudarstvennogo agrarnogo universiteta.-2015.-№6.-S.182-186.