

UDC: 633.854.54:631.53.048.

THE INFLUENCE OF SOWING RATE ON THE CONTINUATION OF THE GROWTH PERIOD OF OILY FLAX VARIETIES

Ismatullaeva Azizakhon Askarjon kizi - PhD student of Tashkent State Agrarian University

Abstract: Oil flax varieties showed the ability to germinate at the same time according to the planting criteria. A difference was observed between the varieties in the days of transition from the budding phase to the phases, and the ripening of the crop was determined in 102-105 days. It was observed that ripening was delayed by 1-2 days in comparison to the options where the sowing rate was 4.0 million pieces/ha, compared to 5.0 and 6.0 million pieces/ha. It was found that Fliz and Biryuza varieties ripened 2-5 days earlier than the control variety Bahorikor.

Keywords: flax, rate, seed, bud, flower, oil, phase, development, growth period.

Introduction. Flaxseed is of great importance in industry, agriculture and the food industry due to its unique oil and seed properties. Its oil is a valuable raw material for the production of paints, varnishes, linoleum, and its seed serves as a high-protein feed for livestock. In the food and medical industries, flax is valued for its high content of Omega-3 fatty acids, which are beneficial for the cardiovascular system, and its antioxidant properties. In addition, flaxseed is a good companion for other crops and improves soil structure. Therefore, it becomes an important part of crop rotation.

Literature Review. Linseed (*Linum usitatissimum* L.) is a widely used valuable industrial crop with a yield potential of 2.5t/day [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, the interest in food products containing oil flax plant is increasing. Processed oil flax seed is 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 cancer and cardiovascular diseases. Lignin compounds in flaxseed can slow down cell division in tumors [3].

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

Flaxseed meal is a high-quality concentrated feed, containing 33-36% protein and 9-15% fat. It is used to balance concentrates in terms of protein, fat and essential amino acids in the feeding of all types of farm animals [5,6].

Among climatic factors, soil moisture during seed ripening has a strong effect on the process of oil formation and the accumulation of fatty acids [7].

Oil flax is a long-day crop with a relatively low light intensity. Although early-maturing varieties of flax are less sensitive to light intensity, late-maturing varieties suffer much more from shading. According to the observations of Yu. P. Buryakov and colleagues (1971), a decrease in light intensity leads to incomplete plant development. This is manifested by the absence of flowers on plants [8].

Due to its relatively early sowing dates, short growing season, and absence of common pathogens, oil flax is a good companion for many agricultural crops. It can be used as an insurance crop in case of winter grain crops failure [9,10].

Very drought-resistant. Less susceptible to diseases in well-drained areas. Resistant to fusarium and anthracnose. Yields 16-17 centners per hectare in conditionally irrigated areas and 7-8 centners per hectare in unirrigated areas [11].

Materials and Methods. Field experiments were conducted in 2023 on typical sierozem soils of the sown fields of the Tashkent State Agrarian University "Educational and Scientific Experimental Farm" in the Kibray district of the Tashkent region. As the object of the study, the following varieties of oilseed flax included in the State Register for sowing were sown: Bahorikor and Biryuza, Fliz, Danik, RFN, at a seed rate of 4.0, 5.0, 6.0 million units/ha. The experiment consisted of a total of 15 variants and 3 replications. Sowing was done in simple rows with a ribbon method with a row spacing of 15 centimeters.

Results. Grasses were formed 15 days after the seeds of oilseed varieties were sown in the open field. The seeds of all 5 varieties are germinated. It was observed that the varieties entered the fir formation phase at the same time, i.e. 35 days after sowing. Differences were observed between cultivars and planting rates starting from the budding phase. It was observed that the spring control variety entered the budding phase 57 days after seeding in the version with 4 million pieces/ha of seeds, and 2 days earlier in the version where the sowing rate was increased to 5 million pieces/ha and 56 days in the case of 6 million pieces/ha.

In the Fliz variety, the budding phase was observed earlier than in the control variety, and it was found to be 2, 1, 1 days earlier according to the planting standards. The above pattern was also observed in Danik, Biryuza and RFN varieties. It was observed that the development phases correspond to the same period in the varieties Biryuza and Fliz, and it was known that they enter earlier than other varieties. In flowering, blue ripening, early yellow ripening and yellow ripening phases, the above pattern was repeated, and in the variant with low planting rate, entry into the phases was observed 1-2 days later, and in the variants with increased planting rate, on the contrary, entry into the phases was observed 1-3 days earlier. The interval between the transitions to phases differed between cultivars and planting standards. It was determined that the transition of the budding phase lasted 22 days when 4.0 million seeds per hectare were planted in Bakhorikor, 20 days when 5 million seeds were planted, and 21 days when 6.0 million seeds were planted.

It was found out that according to the planting norms, the days of transition of the planing phase of the Fliz variety are 19-20 days, the Danik variety is 20-21 days, the Biryuza variety is 19-20 days, and the RFN variety is 20 days. In the flowering phase, the above rule was repeated, and the interval between the phases was differentiated by 1-2 days according to the planting rates.

Seed ripening in flaxseed is divided into 3: blue ripening, early yellow ripening and yellow ripening. The interval between these phases was 29-32 days according to the planting rates.

The spring control variety was fully matured in 105 days in the version planted at the rate of 4 million units/ha. If 5 million seeds were used per hectare, it ripened 2 days earlier in 103 days, while in the option of increasing the planting rate to 6 million seeds, it ripened in 102 days. This variety was found to ripen later among the varieties.

Table 1

The duration of the growth period of oil flax varieties, 2023

Options	Names of varieties	Sowing rate, mln. piece/ha	Phases, days							Full ripening, day
			grassing	fir formation	budding	flowering	seeds ripening			
							blue	early yellow	yellow	
1	Bahorik	4	15	20/35	22/57	14/71	9/80	12/92	11/103	105
2	or	5	15	20/35	20/55	15/70	9/79	12/91	10/101	103
3	(st)	6	15	20/35	21/56	13/69	9/78	12/90	10/100	102

4	Fliz	4	15	20/35	20/55	13/68	9/77	12/89	10/99	101
5		5	15	20/35	19/54	14/68	9/77	12/89	9/98	100
6		6	15	20/35	20/55	13/68	9/77	12/89	8/97	99
7	Danik	4	15	20/35	21/56	14/70	9/79	12/91	10/101	103
8		5	15	20/35	20/55	14/69	9/78	12/90	9/99	101
9		6	15	20/35	21/56	13/69	9/78	12/90	9/99	101
10	Biryuza	4	15	20/35	20/55	13/68	9/77	12/89	9/98	100
11		5	15	20/35	19/54	13/67	9/76	12/88	9/97	99
12		6	15	20/35	19/54	13/67	9/76	12/88	8/96	98
13	RFN	4	15	20/35	21/56	14/70	9/79	12/91	10/101	103
14		5	15	20/35	21/56	13/69	9/78	12/90	10/100	102
15		6	15	20/35	22/57	12/69	9/78	12/90	9/99	101

It was found that the Biryuza variety ripens 4-5 days earlier than the control variety, and 2-3 days earlier than the Danik and RFN varieties. The ripening of the harvest differed by 1-2 days according to the planting rates of the Biryuza and Fliz varieties. It was found that there is a difference of 1 day in the ripening period between RFN variety and Danik variety. But the Biryuza variety ripens 2-3 days earlier than the Danik variety.

Conclusion. Oil flax varieties ripen in 98-105 days when planted in early spring. Biryuza and Fliz varieties ripen 2-3 days earlier than Danik and RFN varieties. The control variety, Bohorikor, was found to ripen 2-5 days later than the above varieties.

REFERENCES

1. Пвен, В.Т., Тишков Н.М., Семеренко С.А., Защита льна масличного от вредных организмов в условиях Кубани // Масличные культуры. Научно-технический бюллетен Всероссийского научно-исследовательского института масличных культур.-2013.-№1(153-154).-С.135-140.
2. Бушнев А.С., Горбаченко Ф.И. и др. Состояние производства и совершенствование элементов технологии возделывания льна масличного в южном регионе Российской Федерации// Масличные культуры. Научно-технический бюллетен Всероссийского научно-исследовательского института масличных культур.-2013.-№2 (155-156).-С.63-84.

3. 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.
4. Андроник, Е. Л., Маслинская М. Е., Иванова Е. В. Роль генофонда льна масличного в решении актуальных задач селекции, растениеводства и повышения качества жизни // Сборник науч. тр. Ставропольского НИИ животноводства и кормопроизводства. - 2014. - Т. 2. -№ 7.
5. Колотов, А. П., Елисеев С. Л. Лён масличный на среднем Урале // Пермский аграрный вестник. - 2014. - № 1 (5). - С. 16-20.
6. Пономарёва, М. Л., Краснова Д. А. Селекционно-генетические аспекты изучения льна масличного в условиях Республики Татарстан - Казань: ФЭн, 2010. - 144 с.
7. Щербаков, В. Г. Лобанов В. Г. Биохимия и товароведение масличного сырья - М.: Колос, 2012.-360 С.
8. Дридигера В. К., Есаулко А. Н., Дорожко Г. Р. под общ. ред. Лён масличный на Ставрополье монография / Ставрополь: 2013.-148 с.
9. Поляков А. В., Чикризова О. Ф., Никитина Л. В. и др. Состав жирных кислот семян льна //Интродукция нетрадиционных и редких
10. Лукомец, В. М. Пивень В. Т., Тишков Н. М. Интегрированный подход к защите посевов льна масличного от вредных организмов // Защита и карантин растений.- 2010.-№ 5.-С. 52-56.
11. Захарова, Л. М. Новые послевсходовые гербициды на льне //Защита и карантин растений. - 2013. - № 4. - С. 31-34.