American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 06 Pages: 18-22
OCLC – 1290679216

Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ajahi

Research Article

THE INFLUENCE OF SOWING NORMS ON THE FORMATION OF YIELD ELEMENTS OF NEW VARIETIES OF OILY FLAX

Submission Date: June 01, 2024, Accepted Date: June 06, 2024,
Published Date: June 11, 2024
Crossref doi: https://doi.org/10.37547/ajahi/Volume04Issue06-04

Z.K.Yuldasheva
Professor of department of Plant Science and Oil Crops of Toshkent State Agrarian University, Uzbekistan

A.A.Ismatullaeva
PhD student of department of Plant Science and Oil Crops of Toshkent State Agrarian University, Uzbekistan

ABSTRACT

In this article, the effect of different sowing norms on the yield elements of new varieties of repeated planted oilseed flax has been proven. In the experiment, 4-5-6 million seeds of Bahorikor (st), Russian Fliz, Danik, Biryuza, RFN varieties were used, and the effect on crop elements was studied. According to the sowing norms, it was proved that the elements of oilseed crop and the weight of 1000 seeds were high in the option where 4 million seeds were used, and when 5 and 6 million seeds were used, the yield elements of oilseed was higher, and the weight of 1,000 seeds were proven to be behind the option that used 4 million seeds. It has been proven that the Russian Fliz (st) variety, which gave good results on the same level as the Bahorikor (st) variety, was well adapted to the climatic conditions of Uzbekistan and prevailed over other varieties.

KEYWORDS

Flax, norm, seed, bud, flower, plant height, oil crops, weight of 1000 pieces grain.

INTRODUCTION

Linseed (Linum usitatissimum L.var.intermedia Vav et Ell.) is one of the technical crops that will develop in the future. Edible oil is obtained from its seeds, it is used in food, technical purposes and medicine. After the oil

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 06 Pages: 18-22
OCLC – 1290679216
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

has been extracted, the remaining meal and oilcake are used as fodder for all kinds of livestock. The oilcake contains 33-36% protein and 9-15% fat [1].

Flax is an important medicinal plant. Linseed oil is used as a dietary in patients with fatty metabolism, atherosclerosis, coronary heart disease, brain, hypertension, diabetes, cirrhosis, fatty liver failure. It is low in cholesterol and high in unsaturated fatty acids, which reduce cholesterol in foods. Mucilage collected when the seeds are heated has a softening effect on intestinal diseases [2].

In the Kutuzova S.N experiment, flax straw is used as a raw material for the production of spun yarn, in the production of thin paper and fibers.

Clothes with unique sanitary-hygienic properties with bactericidal effect are sewn from linen fabrics. Linseed oil with a high iodine number dries quickly, it is best used for the production of paints, lacquer and varnishes. The possibility of processing products by biological methods attracts the world in particular [3].

Oil flax is less cultivated than fiber flax. Oily linseed oil is used in the production of varnishes, paints, linoleum, linoleum, rainproof materials, balloons. Immature seeds contain poisonous sinilic acid. Such oilcake should be given to cattle by heating them (braise) [4, 5].

Recently, flax fiber has become very common in America and has been used to make paper [6].

The unique feature of linseed oil is that it contains semi-saturated α-linoleic acid, which is part of all tissue membranes [7].

The high level of α-linoleic acid in linseed oil makes it possible to quickly dry the oil-based coatings, and is used against corrosion. At the same time, the low content of α-linoleic acid (5%) for linseed oil used in food reduces its bitter taste and oxidation level [8].

Flax is an environmentally friendly crop. Flax cleans the soil from heavy metals and radionuclides. Flaxseeds from contaminated land will not even have traces of radiation [9].

10-13% fiber comes from the flax stem and clean paper is made. More than 300 samples of flax were collected at Research Institute of Plant Science [10].

METHODS

The scientific research work was conducted in the fields of experimental scientific research and educational experimental farm 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-sierozem soil, and it is weakly eroded. The soil layer is grayish-yellow, with a gray-reddish, brownish tint 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 specific gravity of the soil is 2,68-2,69 g/cm3 in the arable layer, the volume weight is around 1,34 to 1,37 g/cm3, the porosity is good from 49,07 to 50,18%. According to the mechanical composition, the arable humus layer (0-25 cm) is medium sand, the arable sub-layer (25-50 cm) and the lower layers (50-100 cm) become heavier and consist of heavy sand and light loam with fractional minerals up to 2-10%. The number of returns is 3, the number of options is 12, systematically arranged, 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, Biryuza, RFN.

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 06 Pages: 18-22
OCLC – 1290679216
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

RESULTS AND DISCUSSION

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

At the end of the growing season, the height of the stem grew by 52 cm at the end of the growing season in the control option of the Bahorikor variety of oily flax, which was planted with 4 million seeds per hectare, and 54 cm in the option with 5 million seeds per hectare and 56 cm in the option with 6 million seeds per hectare. It can be seen that in the variant with an increased sowing norm, the height of the plant grew by 4-6 cm higher than in the variants with a low sowing norm.

At the end of the growing season, the height of the stem grew by 63 cm at the end of the growing season in the Fliz variety of Russia, 64 cm in the variant planted with 5 million seeds per hectare, and 66 cm in the variant planted with 6 million seeds per hectare. It can be seen that in the variant with increased sowing norm, the height of the plant grew by 2-4 cm higher than in the variants with low sowing norm.

At the end of the growing season, the stem height of Beryuza variety was 72 cm in the variant planted with 4 million seeds per hectare, 74 cm in the variant planted with 5 million seeds per hectare, and 73 cm in the variant planted with 6 million seeds per hectare. It can be seen that in the variant with increased sowing norm, the height of the plant grew by 2-3 cm higher than in the variant with low sowing norm.

At the end of the growing season, the height of the stem of the new Danik variety of oilseed increased to 63 cm in the variant planted with 4 million seeds per hectare, 67 cm in the variant planted with 5 million seeds per hectare, and 65 cm in the variant planted with 6 million seeds per hectare. was cm. It can be seen that in the variant with increased sowing norm, the height of the plant grew by 2-5 cm higher than in the variants with low sowing norm.

At the end of the growing season, the height of the stem grew to 62 cm in the variant of the new RFN variety of linseed with 4 million seeds planted per hectare, and 66 cm in the variant with 5 million seeds planted per hectare and 6 million seeds planted per hectare. in the variant it was 65 cm. It can be seen that in the variant with increased planting rate, the height of the plant grew by 3-4 cm higher than in the variant with low planting rate.

Compared to other varieties, it was found that the stem height of Fliz and Baharikor (standard) varieties was the highest. In Beryuza variety, it was proved that the stem height was lower compared to other varieties.

It was studied that the total number of capsules was 30 capsules, and the weight was 2.1 g, in the option of planting 4 million capsules per hectare of the Bahorikor (standard) variety. In the variant planted with 5 million pieces per hectare, the total number of capsules was 42, and the weight was 3.4 g. It was proved that in the variant planted with 6 million seeds, the total number of capsules was 34, and the capsule weight was 2.2 g.

It was found that the total number of capsules was 42, and the weight of the capsule was 3.36 g in the option of planting 4 million pieces per hectare of the Fliz variety. In the variant planted with 5 million pieces per hectare, the total number of capsules was 43, and the weight was 3.06 g. It was proved that in the variant planted with 6 million seeds, the total number of capsules was 41, and the capsule weight was 3.1 grams.

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 06 Pages: 18-22
OCLC – 1290679216
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

It was found that the total number of capsules was 27 capsules, and the capsule weight was 2 g in the option of planting 4 million capsules per hectare in the RFN varieties of linseed. In the variant planted with 5 million pieces per hectare, the total number of capsules was 30, and the weight was 2.2 grams. It was proved that in the variant planted with 6 million seeds, the total number of capsules was 32, and the capsule weight was 2.6 g.

Table 1

Effect of different sowing norms on yield elements of new varieties of oil flax

Sowing dates	Sowing norm	Plant height (cm)	In one plant				
			Number of capsules (pieces)	Weight of capsule (g)	Number of seeds (pieces)	Seed weight (g)	1000 seed weight
Bahorikor	4	52	30	2.1	1448	4.28	6.2
	5	5 4	42	3.4	1251	7.3	5.82
	6	56	34	2.2	1344	7.6	5.7
Fliz	4	63	42	3.36	1425	9.12	6.4
	5	64	43	3.6	1383	7.8	5.7
	6	66	41	3.1	1944	11.8	6.1
Danik	4	63	42	3.2	1254	7.5	6
	5	67	56	4	1192	6.9	5.8
	6	65	46	3.6	1324	7.5	5.7
Beryuza	4	72	52	3	1277	7.8	6.1
	5	74	68	4.5	1179	7	5.9
	6	73	58	3.7	1182	7.2	6
RFN	4	62	27	2	1310	7.4	5.7
	5	66	30	2.2	982.5	5.7	5.8
	6	65	32	2.6	1228	6.8	5.6

It can be seen that as the planting rate decreases, the total number of capsules increases. It was proved that the total number of capsules was the highest in Bahorikor (standard) and Fliz varieties of oil flax, and the lowest number of capsules was determined in the RFN variety.

The average number of seeds in one plant was 1448 seeds in the 4 million seed planted variant of Bahorikor (standard) variety of oil flax, and the seed weight is 4.28 g. seeds were sown 5 million, the average number of seeds in one plant was 1251, and the seed weight was 7.3 grams.

The average number of seeds in one plant was 1344 seeds in the 6 million seed sown variant, and the seed weight was 7.6 grams.

The average number of seeds in one plant was 1425 in the variant of the Russian Fliz variety planted with 4 million seeds, and the seed weight was 9.12 g and it was

American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 06 Pages: 18-22
OCLC – 1290679216
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

proved that it gave a high result compared to other varieties and norms.

The weight of 1,000 seeds per plant was 6.2 grams in the variant of Baharikor (standard) variety planted with 4 million seeds, while in the variant planted with 5 million seeds per hectare, the weight of 1,000 seeds per plant was 5.82 grams. It was proved that the weight of 1000 seeds in one plant was 5.07 grams in the variant planted 6 millions of seeds.

It has been proven that the weight of 1,000 seeds per plant was 6.04 grams in the Russian Fliz variety, which was planted with 4 million seeds.

CONCLUSION

It has been proven that the oiled flax variety has a positive effect on yield when we used it at the rate of 4 million pieces. It has been proven that the weight of 1000 seeds has also increased. The fact that the seed weight of the Bahorikor variety (control) was 4 million pieces per hectare (1448 pieces) and the Russian Fliz variety was 4 million pieces per hectare, it was proved that it was higher than the other variants.

REFERENCES

1. Nurmatov Sh.N., Azizov T.B., Tursunov L., Anarboev I.U. etc. // Recommendations on agrotechnology for growing high yield from oil crops. Tashkent. 2012. -107-112 p.
2. Кутузова С.Н. Масличные культуры для пищевого использования в России (проблемы селекции, сортимент) // Рос. акад. с.-х. наук, Гос. науч. центр Рос. Федерации, Всерос. НИИ растениеводства им. Н.И. Вавилова. - Санкт-Петербург: [б. и.], 1998. - 79 с.
3. Галкин, Ф.М. Основные направления селекции сортов льна маслич- ного для производства на Северном Кавказе// Рынок масличных культур в России – сегодня и завтра: сб. науч. тр./ ВНИИМК. – М., 2000. – С. 98-103.
4. http://www.oblproect.agro-spas.ru. Oily flax
5. Nurmatov Sh.N., Azizov T.B., Anarboev I.U., Tokhtaeva S. // Improved agrotechnology of growing abundant sunflower crops. Tashkent. 2009. – 7– 9 p
6. Бестаева С.С., Ханиева И.М., Шамурзаев Р.И. Масличность льна масличного в зависимости от нормы высева // Материалы 4 Между-народной конференции молодых ученых, аспирантов и студентов «Актуальность и новые направления сельскохозяйственной науки». – Владикавказ, – 2008. –С 82-86
7. Atabaeva H., Yuldasheva Z., Islamov A. // Fodder cultivation with basics of agronomy. - T. "Yangi asr avlodi", 2009.-154 p.
8. Лошкомойников, И.А. Рекомендации по возделыванию льна маслич- ного в Омской области// – Исилькуль, 2000. – 10 с.
9. Program of the Cabinet of Ministers of the Republic of Uzbekistan on January 31, 2017 "Measures to be implemented by the Council of Ministers of the Republic of Karakalpakstan and regional governments and JSC "Uzpakhtayog" on the cultivation of oilseed crops in 2017
10. Abdukarimov D.T. etc. Technology of cultivation of single, repeated and autumn-winter intermediate crops. - Samarkand, 1995.-38 p.