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Influence Of Sowing Dates And Methods On The Growth And Development Of Oilseed Flax

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ABSTRACT

The article is given that the impact of planting date and methods on the growth and development of oilseed flax variety "Bahorikor" in the conditions of typical irrigated sierozem soils of Tashkent region is studied in practice. Experiments have shown that when the Bahorikor variety is planted early (March 1) in a row with a row spacing of 15 cm, it creates a favorable environment for the growth and development of plants.

KEYWORDS

Oilseed flax, variety, variant, sowing rate, sowing date, sowing method, yield, elements, pod, seed, branching, vegetation, growth period.

INTRODUCTION

Oily flax accounts for about 20 percent of crops in the CIS countries, and in recent years, due to its high content of linoleic acid in oil, the consumption of flaxseed oil has been increasing worldwide due to its medicinal

properties. In recent years, the Republic of Uzbekistan is also paying more attention to oilseeds and expanding land areas. According to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated December

20, 2019 № 1025 and January 10, 2020 No 03 / 1-1769 "Program of measures for the cultivation of oilseeds in 2020", in 2020 a total of 611157 hectares of oilseeds will be grown and harvested 77773 tons. Of this, oilseed flax was planted on 3,885 hectares.

The Degree To Which The Problem Has Been Studied

Oily flax is planted in the spring after wheat and barley. Early planting gives a positive result. Early planting is less susceptible to diseases and pests, makes good use of moisture, gives high yields. In dry lands, the yield was 6.3 t / ha when sown in late February and early March, 5.6 t / ha when sown in mid-March, and 3.4 t / ha in the first ten days of April. The norm of sowing flax is 16-18 kg / ha in the hills, 20-22 kg in the foothills, 25-30 kg / ha in the mountains. In irrigated lands, the norm is set at 40-50 kg / ha [1,3,4].

Flax is planted in spring in early March. Early planted flax blooms earlier and is more productive and seed-bearing, less susceptible to pest-infestation. The sowing rate is determined by the conditions of each region, the type of crop and the size of the seeds. It is recommended to sow the seeds at the rate of 18–22 kg per hectare in the plains, 22–25 kg in the foothills, and 25–28 kg in the mountains [8,9].

The sowing period of oilseed flax is the third decade of March and the first decade of April. Planting method - simple row spacing, 15 cm between rows, narrow row spacing, 7.5 cm between rows. Depth of seed sowing is 4-5 cm. The sowing rate is 7-8 million seeds per hectare (50-60 kg / ha). While it is acceptable to have 500-700 seedlings per 1 m², the minimum number of seedlings is 400 [5,6].

The sowing period of flax seeds is the second half of March and is sown soon. The sowing rate is 35-40 kg / ha on irrigated lands, 16-18 kg / ha on dry lands and 20-25 kg / ha on mountainous lands. Flax is planted in rows 45 cm wide and 4-5 cm deep in a simple grain drill or in a ribbon method [7].

When oilseeds were sown at optimal times (April 1-10), the yield was 12.3 c / ha and the oil content was 6.3 c / ha. When planted early, it does not increase yields, but rather reduces and prolongs the growth period. When planted later in late April, yields drop sharply and excessive application of fertilizers does not increase yields [2].

THE OBJECT AND METHODOLOGY OF THE EXPERIMENT

Field experiments were conducted in the conditions of typical irrigated sierozem soils of the experimental field "Center for Innovative Developments and Consulting in Agriculture" of Tashkent State Agrarian University. The research methods "Field experiments" (T. UzPITI 2007), "Methods of field experiment" (B. Dospekhov, 1985) were used.

In the experiment, the Bahorikor variety of oilseed flax was planted in three periods on March 1, 10 and 20, in four sowing methods: narrow rows, 7.5 cm between rows, 15 cm between rows, and 30 and 45 cm wide. The total number of options is 15, the area of each plot is 84 m². The area to be taken into account is 56 m². The experiment consisted of 3 repetitions, located in 1 tier. The total area planted experimentally is 1.3 ha. The soil was plowed to a depth of 30 cm in autumn, before plowing mineral fertilizer was applied in the amount of P80K60 and nitrogen N50 kg per hectare along with planting, in the flowering phase in the amount of 50 kg.

RESULTS AND THEIR DISCUSSION

Naturally, if there are the more yield branches, the yield is the higher. Because in one crop branch 100 to 300 pods are formed in oilseed flax, and the importance of agro-technical measures in its formation is very high. In the 1st variant, planted in a narrow row (7.5 cm) in the early period on March 1, the average number of branches with a plant height of 52.1 cm was 6.3. It was observed that the height of the plant was lower as the planting method changed. For this reason is that when the row spacing is widened, the plants grow spread out as the nutrient area for the plants expands and the light increases.

In the 2nd variant, planted in rows (15 cm), the average number of branches with a plant height of 50.5 cm was 6.7. In the 3rd variant planted in wide rows (30 cm), the plant height was 48.1 cm, the average number of branches was 5.2, in the 4th variant planted in wide rows (45 cm), the plant height was lower than in all experimental variants. a stem formed 5,9 cm lower than in the 1st variant, 4.3 cm lower than in the 2nd variant and 1.9 cm lower than in the 3rd variant. The number of branches averaged 5.0, producing 1.3 fewer branches than in the 1st variant, 1.7 fewer branches in the 2nd variant, and 0.2 less than in the 3rd variant.

Table 1
Effects of sowing dates and methods on yield elements of oil flax

Sowing dates	Sowing methods	Plant height, cm	In the one plant					The number of seeds in a boll,	Growth period, day
			The number of yield branches, piece	Bolls		In the bolls			
				number, piece	weight, gram	The number of seeds,	The weight of seeds, gram		
01.03	Narrow row, 7,5 cm	52,1	6,3	23,3	1,59	169,0	1,07	7,2	110
	Wide row, 15 cm	50,5	6,7	25,0	1,74	198,0	1,21	7,9	110
	Wide row, 30 cm	48,1	5,2	23,0	1,59	186,0	1,11	8,1	109
	Wide row, 45 cm	46,2	5,0	20,0	1,03	176,0	0,68	8,8	109
10.03	Narrow row, 7,5 cm	55,6	7,0	27,1	1,98	221,0	1,46	8,2	107
	In a row, 15 cm	53,7	7,5	29,2	2,50	249,0	1,78	8,5	107
	Wide row, 30 cm	50,0	6,4	24,0	1,58	200,0	1,10	8,3	106
	Wide row, 45 cm	47,8	5,8	22,0	1,28	165,1	0,97	7,5	106

20.03	Narrow row, 7,5 cm	48,3	6,1	25.0	1,46	178,0	0,93	7,1	103
	In a row, 15 cm	48,0	6,6	27.0	1,91	196,3	1,23	7,2	103
	Wide row, 30 cm	43,6	6,3	21,2	1,31	161,0	0,96	7,7	102
	Wide row, 45 cm	43,1	5,2	21,0	1,11	142,0	0,72	6,8	102

In the 4th variant, planted in wide rows (45 cm) on March 10, it was observed that the plant height (47.8 cm) was lower than in all experimental variants and was 7.8 cm higher than in the 1st variant. A stem formed 5.9 cm lower than the 2nd variant and 2.2 cm lower than the 3rd variant.

The number of branches averaged 5.8, producing 1.2 fewer branches than variant 1, 2.0 fewer branches compared to variant 2, and 0.6 less than variant 3. The growth of the flax stem slows down during the flowering period of the plant and eventually stops growing.

In the 1st variant, planted in narrow rows (7.5 cm) on March 20, the average number of branches with a plant height of 48.3 cm was 6.6. In variant 2, planted in rows (15 cm), the plant height was 48.0 cm and the number of branches was 6.1 on average. In the 3rd variant planted in wide rows (30 cm), the plant height was 43.6 cm and the number of branches averaged 6.3, while in the 4th variant planted in wide rows (45 cm), the plant height was observed to be lower than in all experimental variants, and formed 5.2 cm compared to the 1st variant, 4.9 cm compared to the 2nd variant and 0.5 cm lower than the 3rd variant. The number of branches averaged 5.2, producing 0.9 fewer branches than variant 1, 1.4 fewer branches than variant 2, and 1.1 fewer branches than variant 3.

According to the planting dates, when planted on March 10, the plant was tall and the number of branches in it was formed more than in other periods studied in the experiment. At the same time, in the early period, the plant height was 3.5 cm and the number of branches was 0.7 less than in the 1st variant, which was planted in narrow rows (7.5 cm) compared to March 1, while in the variant (15 cm) it was 3.2 cm and 0.8 pieces, 1.9 cm and 1.2 pieces in the wide row (30 cm) version, and 1.6 cm and 0.8 pieces in the wide row (45 cm) version.

10 days later than March 10, compared to variant 1, planted in narrow rows (7.5 cm), the plant height is 7.3 cm and the number of branches is less than 0.9, compared to variant 1, planted in rows (15 cm) 5.7 cm and 0.9 pieces, 6.4 cm and 0.1 pieces in the wide row (30 cm) version, and 4.7 cm and 0.6 pieces in the wide row (45 cm) version was detected.

According to the experience of the planting method, in the 2nd variant, planted in rows (15 cm) at all periods, it was found that the plant height and number of branches were large.

How much oilseed flax is stored and harvested is directly related to its planting times and methods. At the same time, the study of sowing dates and sowing methods of oilseed

flax, the clarification of these factors will ensure high yields of oilseed flax in the future.

The “Bahorikor” variety of oilseed flax differed in the early March 1 sowing method (15 cm) by the number of pods per plant, their weight, the number of seeds in the pods and their weight more than other options studied in the experiment. It was found that the number of pods was 1.7 more, the pods weighed 0.15 grams heavier, the number of seeds in the pods was 29 more and they weighed 0.14 grams heavier than the narrow row (7.5 cm) variant. In the wide row sowing, the number of pods was 2.0 times higher than the wide row (30 cm) variant, the pods were 0.15 grams heavier, the number of seeds in the pods was 12 more and they weighed 0.10 grams heavier than the wide row (45 cm) variant. The number of pods was found to be 5.0 more, the pods weighed 0.71 grams heavier, the number of seeds in the pods was 22 more, and they weighed 0.53 grams heavier wide row (45 cm) variant.

Also in the March 10 period, the row (15 cm) sowing method differed in that the number of pods per plant, their weight, the number of seeds in the pods, and their weight were greater than the other options studied in the experiment. It was found that the number of pods was 2.1 more, the pods weighed 0.52 grams heavier, the number of seeds in the pods was 28 more and they weighed 0.32 grams heavier when planted in rows (15 cm) than in the narrow row (7.5 cm) variant. Compared to the wide-row (30 cm) variant, the number of pods increased by 5.2, the pods weighed 1.08 grams, the number of seeds in the pods increased by 49, and they weighed 0.68 grams, the relative number of pods was found to be 7.2 more, the pods weighed 0.30 grams heavier, the number of seeds in the pods was 83.9 more, and they weighed 0.1 grams heavier.

It was observed that the total number of pods decreased when sowing dates were delayed. When flax was planted in rows (15 cm) on March 20, the number of pods was 2.0 more, the pods weighed 0.45 grams, the number of seeds in the pods was 18.3 more. It was found to be 0.3 grams heavier. Compared to the wide row (30 cm) variant, the number of pods increased by 5.8, the pods weighed 0.6 grams, the number of seeds in the pods increased by 35.3 and they weighed 0.27 grams. Compared to the planted variant, the number of pods was found to be 6.0 more, the pods weighed 0.80 grams heavier, the number of seeds in the pods was 54.3 more, and their weight was 0.51 grams heavier.

Flax yield also depends on the number of seeds and the weight of the seed. However, the abundance of seeds is not always the basis for high yields. This is because only if the weight along with the number of seeds is at the level of demand, it will ensure that the crop grown will be abundant and of good quality.

According to the results of the study, on March 1, in the variant planted in narrow rows (7.5 cm), there were 7.2 seeds per boll, which was different from other methods in the experiment. It was observed that it was 0.7 units less than option 2, 0.9 units less than option 3, and 1.6 units less than option 4.

In the variant planted in rows (15 cm) on March 10, there were 8.2 in one boll, which differed from the other methods in the experiment.

In the variant planted in a wide row (30 cm) on March 20, there were 7.7 pieces per boll, which differed from the other methods in the experiment. It was observed that 0.6 more seeds were produced than in Option 1, 0.5 more than in Option 2, and 0.9 more than in Option 4.

The number of seeds in one boll by sowing dates on March 1 was found that in all experimental variants when sown on the day, more seeds were formed than in the early sown and late sown variants.

Sowing dates and methods significant effect on the duration of the growing season of oilseed flax was found to be 9-7 days to 1-7 days early ripening by sowing methods on March 20 when sown on March 1.

CONCLUSION

In the typical irrigated sierozem soils of Tashkent region, the Bahorikor variety of oilseed flax is sown early (March 10) in rows with a row spacing of 15 cm, yield branches in the plants was more, bolls and numbers of seeds in bolls in it, as well as, their weight were found to be higher than other experimental methods in the experiments.

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